RAILROADS

FINANCE AND ORGANIZATION

BY THE SAME AUTHOR

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RATES AND REGULATION

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RAILROADS

FINANCE & ORGANIZATION

BY

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WITH 29 MAPS AND DIAGRAMS

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PREFACE

More than a generation and a half ago, the people of the United States set about the great task of subjecting their common carriers to public control. It was at first almost a matter of brute force, so resolute was the opposition to be overcome, so firmly intrenched and so stoutly defended were the private interests affected. But since 1906–10 the battle may in general be regarded as won. The railroads have surrendered, first to the legislatures and afterward to the courts. They seem to have acquiesced in the inevitable, to have accepted it in good faith. They are at the mercy of the public, which has assumed the grave responsibility for a wise exercise of its authority, so hardly won. The day of the battle axe and the mace has thus drawn to a close. A different and a more constructive task confronts the future. For evidence is at hand that the rude treatment of the public champions, essential for a time, if not supplanted by a finer and more sensitive manipulation, may work havoc with the delicately adjusted and the nicely poised machinery of finance. Nor is it merely that too stringent regulation may, perchance, harm a few thousand investors who happen to hold railroad securities here or there; or that it may embarrass some two million employees and their families. Neither widows nor orphans, nor brakemen nor supply houses, — just as all their claims to consideration may be — are of primary importance. The present danger is less that clumsy or injudicious regulation may bring hardship to investors, than that it shall defeat its own set purpose and its proper aim, which is the attainment of an adequate public service at reasonable rates by the 100,000,000 people of the United States, dependent upon the railroads as upon no other single instrumentality for their material well-being day by day. Adequate service at reasonable rates is what the people really demand, and what they will continue to seek, blunderingly

enough, perhaps, until they get it. The point to carry forward, however, is that they cannot hope to reach this goal, under private ownership at least, until the investors' interest is accorded just and full consideration. A dim and belated perception of this fact is now apparent in the momentous Five Per Cent. Rate Increase decision recently handed down by the Interstate Commerce Commission — the leading opinion expressly authorizing a widespread increase of rates since 1887.

In entering upon this second phase of the problem of public regulation, the people just now seem to be wandering about a bit distractedly, as in a labyrinth of involved relationships. They are conscious of power, but are not quite sure how best it may be utilized to achieve their ends. Such is always the weakness of popular government. It lacks the incisive directness and efficiency of autocracy, public or private. One notes what Lippman has fitly described as "the faltering method, the distracted soul and the murky vision of what we call grandiloquently the will of the people." It is this predicament which justifies our volume. It is not, in spirit, merely a technical treatise upon railroad finance, a stock exchange handbook or a bankers' manual. As such, it could hardly hold one with enthusiasm uninterruptedly to a somewhat arduous task for a term of years. Nor yet would the book be esteemed as a bald and barren academic chronicle of past events, disconnected with present affairs. It aims to be a constructive essay in government, systematizing information for others in a single great department of the business of the state; and offering, it may be, helpful suggestions at a critical time. And this instant is, indeed, a critical time for the advocates of private property in railroads under public regulation. For there are but two outlets from the present maze. One pursues the accustomed way of private ownership under collective control; the other leads directly on to government appropriation. The evidence upon this point is conclusive. The logic is inexorable. Unless the people will to so far encourage private capital by the prospect of a satisfactory return upon its ventures, that the funds necessary for future development in a rapidly growing country shall be amply forthcoming, no alternative

than a government taking is possible. Above all, the service must not lapse one jot or tittle. The industrial life of the nation depends upon it. And if private resources fail, as fail they must without due encouragement and security, the state must shortly intervene and raise the funds itself, or else guarantee a return certain, thus virtually taking over the property. A mixed proprietorship for good and all is unthinkable.

What then is the solution offered? It is constantly suggested rather than directly affirmed throughout the body of the text. Were it more clearly stated, there would be less need for an explanatory preface. This, then, is the golden thread by which alone we are to be led forth from the labyrinth, — a mutual sense of high responsibility between the public and those who own or direct the railroads of the country. There must be accountability on both sides: an obligation upon the managers to render safe and adequate service at fair rates; and, no less emphatically, recognition by the state of the right of investors, under efficient and honest management by their own agents, to a reasonable return. Especially is this volume addressed to the managements, — executives, bankers and directors, — who, standing intermediate between the two great parties in interest, have it so much in their power to promote an honest purpose and a better understanding, and to contribute, thus, to bringing their principals together. Bankers, especially, are not in intimate daily contact with the great body of patrons which the railroads serve, as are the operating men. It is my belief that many of our railroad troubles are traceable to their overweight of influence upon directorates.[1] Too often in the past have they stood aloof, irresponsible alike to the government and the owners, in a financial realm above, to which mere mortal citizens and stockholders might not aspire, — to paraphrase a famous extenuating utterance of counsel for the late E. H. Harriman upon a certain investigating occasion. Their office and privilege it is, at this decisive juncture, to insist upon upright practices, to root out corruption with an unfaltering hand, to censure all dealings of their subordinates which

[1] On banker management, cf. F. H. Dixon in *Journal of Political Economy*, vol. XXII, 1914, p. 937 *et seq.*

are not straightforward and aboveboard, and to visit their joint condemnation upon all others in the business, wherever engaged, who fail to measure up to these high standards. Anybody's misdeed is every body's business. Traitors to the common good, who, as on the Louisville & Nashville in 1913, in direct violation of law and decency, issued 11,805 free passes, over half of them to public officials,[1] are equally reprehensible with miscreants, both operating and banking, like those responsible for the New Haven, the Rock Island or the "Frisco" disasters, which imposed great losses upon the investing class. Each sought selfish and private ends, oblivious to the debauching effect of it all upon public morals and material welfare. Each should be regarded by all right-minded men as foremost among the enemies of the republic.

The foregoing statement affords one explanation for the quite abounding account of the shortcomings of our American railroad financiering within these covers. The stream of the text, especially in certain chapters, flows across a somewhat dreary landscape. But facts are facts. It takes too much time, besides missing the main point, to call a spade an instrument of husbandry. But there is another warrant for entire frankness. Outspoken and rigorous analysis of wrongdoing has a scientific as well as a moral side. Pathology is as well recognized a department of medicine as therapeutics. The laws of health can be worked out only in a fulness of knowledge as to the nature of disease. And until the cause and the completed course of disease are thoroughly understood, the practitioner is well-nigh helpless to effect a cure. Yet the student of medicine, because his attention for a time is fixed upon physical disorders, does not lose faith in the curative possibilities of his art. Neither does he conclude that all men are bodily unsound, because his clinic reveals so much human defectiveness. Just so would we conclude our study with the affirmation that never in our history, and probably nowhere else in the world, has the standard of probity, the quickened sense of responsibility, both public and private, among American railroad men, been more pronounced than it is at the present time.

[1] I. C. C. Rep., 63rd Cong., 2nd sess., Senate Doc. no. 532.

American railways are avowedly among the best in the world. But they are not perfect. May we not hope that by the eradication of certain outstanding evils, they may still more completely merit general confidence. Is it an idle dream to anticipate such a combination of individual and collective effort, that the prime advantages of initiative and efficiency which spring from private ownership, may be sustained, without sacrifice of the guarantee for the common weal which a firm, just and steady supervision can alone assure?

Aside from the foregoing suggestions, ethical and abstract as they are in large measure, certain definite propositions for remedial legislation are advanced. One is that the railroads of the country be relieved of the steadily increasing burden of state regulation in matters of finance, as distinct from those already concerned with rates or operation, through the assumption of such authority by the Federal government. If the work is to be done at all, as seems inevitable, judging from the trend of events, will it not be better and less harassingly performed by the United States, acting alone, than by forty-eight independent, relatively petty, conflicting and often jealous state commissions? The other leading proposal is that some affirmative action be taken, now that the Federal authority is firmly established, to permit, nay even to encourage, such co-operation among carriers as shall tend to eliminate the economic wastes of competition, without endangering its manifest advantages to the public at large. This means the repeal or amendment of the anti-pooling section of the Interstate Commerce law. It might bring about good results.

One novel feature of the statistical charts, both in this and in the preceding volume, deserves mention. It will be observed that each one is laid out for a considerable period of time ahead, the object being that the interested student may add the new data as it becomes available, in pencil or otherwise. It is, in fact, an admirable exercise to require that this be done; inasmuch as an acquaintance with the official sources of information is thereby formed. And in a somewhat similar way, the discerning teacher may make use of the ample footnote references, in the years to come, by assigning special topics of immediate or

continuing interest, to be brought up to date. Things move so rapidly in our industrial unfolding, that an economic book is behind the times almost before the ink is dry upon its pages. But there are few more stimulating tasks for the student than to round out a story necessarily left incomplete in the text of a book. Thus, rightly used, a well constructed volume may gain in interest up to a certain point, pedagogically, in proportion as it goes out of date for the general reader.

In order to complete this study, an expert analysis of railroad accounts is needed. It was originally intended, and was so announced preliminarily, to append a chapter by my friend and colleague, Professor W. M. Cole of Harvard University. But the limitations of space, as the subject matter grew upon my hands, rendered this bit of co-operation impracticable. With great reluctance on my part it had to be abandoned finally.

Acknowledgment should be made for assistance rendered at one time or another by a number of fellow workers in corporation finance, not only directly and personally but through affording access to unpublished material as well. I have found the admirable bibliography in Cleveland and Powell's Railroad Finance most serviceable, especially in connection with matters of accounting and reorganization. Professor W. C. Mitchell of Columbia has made it possible to bring my statistical data for prices down to a late date. The careful published work of former students, Professors Daggett of the University of California, and Eliot Jones of the University of Iowa in particular, has been freely drawn upon. *The Railway Age Gazette*, through its editor, Mr. S. O. Dunn, and the New York Times *Annalist* have been generous in affording opportunities to bring my work before their critical readers; and a number of the economic journals have been equally obliging. A preliminary publication, thus, has enabled a number of mis-statements to be corrected. Without the devoted service of my secretary, Miss Elin A. Lindberg, the book would necessarily have been much longer overdue than it already is.

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RAILROADS

CHAPTER I

RAILROAD CONSTRUCTION FINANCE

The contrast in economic affairs between the long-settled European countries and the United States is in many respects marked; but in none is it more so, perhaps, than in the field of transportation. This is due to several underlying material factors, two in particular. One is the abundance of land, coupled with a scarcity of labor. The other is the limited supply of capital. Of these, land in its various relations to labor and population has been the more far-reaching and fundamental in effect; whereas capital supply has been rather temporary and local in influence. And with the progress of time, conditions as to capital in the United States have tended to approach more nearly to similarity with those of older

countries. But American land and labor conditions have always been unique. It is impossible to fully understand many aspects of our railroad affairs, both historical and present, without reckoning with these matters in their broader relationships. This is especially true in the domain of finance.

The economic development of Europe has at all times been profoundly influenced by the fact that because men were many, land was dear and labor was cheap. In America quite the opposite condition of affairs prevails. With us, population has never pressed for subsistence upon the soil, which has cried out for cultivation; and, consequently, free or low-priced land has been accompanied by an equally marked scarcity of labor and capital. For railway purposes, in fact, land for the most part in early days was to be had for the asking.[1] In Europe, on the other hand, acquisition of the right of way was one of the heaviest items of expense. And with us, even where land had to be purchased it was done so under favoring legislation as to the right of eminent domain. This mode of facilitating construction, under legislation dominated by the landholding interests, seems to have been rarely employed in Europe. As for labor, the problem has progressively intensified in its bearings upon finance with the passage of time.

The relative scarcity of capital in the United States, in face of the stupendous task of opening up a continent to settlement, has always affected both the development of transportation enterprises and the method by which they have been financed. European capital has consequently been of the utmost importance in the creation of the American railway net. The dearth of domestic funds in the early days and the phenomenally rapid growth of our transportation system rendered us peculiarly dependent upon foreign financial markets for many years. For this reason a brief historical survey may properly serve as an introduction to our subject.

[1] Land grants are treated in our Railroads: Rates and Regulation, p. 35.

The demand for capital after the close of the war of 1812 was very great. This capital was, of course, obtainable from two distinct sources, domestic and foreign respectively.[1] As for the domestic supply, the first funds originated in successful shipping enterprises during the European wars and in the rise of cotton growing. A mere trading capital soon expanded into a considerable surplus for investment purposes. The rapid repayment of the national debt after the close of the war released these funds for other uses. In the period 1815–'30 the United States paid off $123,000,000 of its bonds. The years next succeeding were associated with risky experimentation in railway construction. A modest demand at the outset soon increased to very considerable proportions. But two particular events of the decade to 1840 both served to release funds for further exploitation and operated as well to promote speculation all over the country, in the populated East as well as along the undeveloped frontier. The first of these events was the removal in 1833 of $29,000,000 of government deposits in the United States Bank to state institutions. The other was the current distribution of the United States surplus revenue among the states after the final extinction of the national debt in 1835.

The foreign sources of capital in the United States in the early days were most uncertain and inconstant. English funds came freely during the colonial period. The rapid repayment of the United States debt greatly strengthened our credit abroad. The success of British canals as investments naturally encouraged interest in American enterprises of a similar sort. From participation in the banking business, especially in connection with the cotton industry in the South, a considerable supply of English capital flowed into railway and other transportation companies. This was noticeably the case during the '30s. Approximately one-half of the capital of the Camden & Amboy — first railroad monopoly in the United States —

[1] *Quarterly Journal of Economics*, vol. XVII, 1902, pp. 111–163.

seems to have been obtained from English sources. According to the message of President Van Buren in 1840, some two hundred million dollars in all was borrowed from abroad. British interest in our foreign commerce also, of course, freed American capital for other investment. The relation of American transportation pioneers to British bankers was undoubtedly intimate; but the frenzied speculation, the mania of state debts for internal improvements and the financial collapse in the panic of 1837 abruptly closed this source of supply. Without discrimination, all investments in the Middle West were lumped together as insecure in the minds of European capitalists.

A new period of British and European interest in American transportation followed the discovery of gold in California in 1849. John M. Forbes writes in 1854 that four-fifths of the western railways, begun since that date, were directly due to that event. Eastern financiers promptly took advantage of this encouragement and appealed to Europe for money.[1] Enthusiasm grew abroad until as little discrimination came to be applied in supporting all kinds of enterprises as had characterized their condemnation ten years earlier. Until the panic of 1873 European investors bought our railway securities eagerly. The Illinois Central is unique, perhaps, in the continued interest of foreign capitalists. This road, from its inception in 1851, was for many years actually controlled abroad. In 1876 not less than 86 per cent. of its stock was thus held. So much Dutch capital was invested in the Chicago & Northwestern in 1869 that a foreign representation of two directors was given on its board. Amsterdam was quite heavily interested in parts of the Northern Pacific.[2] Many bonds of the Erie were also held in

[1] Conditions at this time are well described in Pearson's American Railroad Builder, reprinted in our Railway Problems, rev. ed., pp. 61–91. *Cf.* also Oberholtzer, Jay Cooke, II, pp. 183, 343, 378, on the Northern Pacific.

[2] Oberholtzer, p. 791 *et seq.*, affords admirable data as to an organized raid upon European banking supplies.

Europe. But the excesses of Jay Gould and his followers in this road undoubtedly contributed to the sharp check upon investment from abroad in American railroads in the early '70s.[1]

After the panic of 1873, foreign investment gradually revived and was not again seriously interrupted for twenty years. It has been estimated that $375,000,000 of American railway stocks and bonds were held in Europe in 1876. During this period, not only our stock exchanges but bankers in general were peculiarly sensitive to European conditions. The important Baring collapse in 1890, largely concerned with the Atchison road among other American enterprises, was a case in point. A chairman of the London & Westminster Bank stated at one of its annual meetings that one-third of the advances made by his institution in that year were based upon American railway securities. It is certain that a large part of the phenomenal expansion of our transportation system during the decade 1880–'90 was financed abroad. As indicating the predominance of European capital at this time, the following table is significant. From this it will appear that an absolute

	Per Cent. of Foreign Stock 1890–'96	1905
Illinois Central	65	21
Pennsylvania	52	19
Louisville & Nashville	75	7
New York, Ontario & Western	58	12
New York Central & Hudson River	37	9
Reading	52	3
Great Northern	33	2
Baltimore & Ohio	21	17
Chicago, Milwaukee & St. Paul	21	6

majority of stock in at least five large American roads was held outside the country; and of course the bond holdings, especially in England, were even heavier in proportion; although there is no way of ascertaining their exact amount.

[1] About one hundred and fifty million dollars of railway securities, mostly land-grant bonds, in default in 1873–'74 were held in England, Holland and Germany. *Yale Review*, vol. III, 1898, p. 324.

The acuteness of the panic of 1893 and its protracted after-effects were considerably accentuated by these foreign investments in American railways.[1] Liquidation from abroad, both of stocks and bonds, assumed enormous proportions during 1893. Hundreds of millions of securities were returned to New York, at a time when we were too financially embarrassed otherwise to repurchase them. An utter collapse of prices was the result. Matters improved materially in 1895 with the reappearance of more normal conditions; and a renewed outflow of railway securities followed. A goodly proportion of our heavy excess of imports of merchandise over exports in that year was met by sales of large blocks of railway stocks and bonds. Many of these, however, were not permanently held, but were returned within a few months. Their usefulness, nevertheless, as a means of preserving the so-called balance of trade was amply demonstrated. How great was the magnitude of foreign investment, even after the liquidation of 1893–'94, is shown by the following table. The total holdings of leading foreign countries in American securities of all sorts on January 1, 1899, appeared to be as follows:

England	$2,500,000,000
Holland	240,000,000
Germany	200,000,000
Switzerland	75,000,000
France	50,000,000
Rest of Europe	35,000,000

A total of over three billions of dollars appears, mainly consisting of railway stocks and bonds. German holdings, administered by Frankfort bankers, at this time have been

[1] Careful studies of European investment in America and elsewhere in recent years will be found in the following references: *Journal of the Royal Statistical Society*, September, 1909; *Le Rentier*, Paris, 1905, summarized in U. S. Consular Reports, March 23, 1905; *Journal de la Société de Statistique de Paris*, April, 1891; *Yale Review*, November, 1900; *Annals American Academy of Political Science*, November, 1903; *World's Work*, December, 1903.

analyzed even more in detail, as is shown by the next set of figures.

ESTIMATES OF GERMAN HOLDINGS OF AMERICAN SECURITIES

	Market Value	
Central Pacific	$12,000,000 to	$15,000,000
Southern Pacific	15,000,000	17,000,000
Northern Pacific	20,000,000	25,000,000
Missouri Pacific	2,000,000	3,000,000
Union Pacific	2,000,000	3,000,000
California Pacific	3,000,000	4,000,000
Oregon Railroad and Navigation	1,000,000	2,000,000
Erie	2,000,000	3,000,000
Pennsylvania Railroad and Baltimore & Ohio Railroad	....	1,000,000
Louisville & Nashville	....	1,000,000
Chicago, Milwaukee & St. Paul	7,000,000	8,000,000
Chicago, Burlington & Quincy	2,000,000	3,000,000
Illinois Central	7,000,000	8,000,000
Rock Island	....	1,000,000
Denver & Rio Grande	3,000,000	4,000,000
Houston & Texas Central	....	2,000,000
Pittsburgh, Cincinnati, Chicago & St. Louis	....	2,000,000
Western New York & Pennsylvania	....	1,000,000
Total	....	105,000,000

The phenomenal outbreak of prosperity in the United States in 1898 marked a turning point both in our financial and our transportation history. Within comparatively few years, a large proportion of our American railway securities were repurchased from abroad. So abruptly in fact was this effected in 1899–1900 that the foreign markets were all but drained dry. Within ten years to 1906, it was estimated that for nine roads alone about $250,000,000 of railway stocks were permanently returned from Europe. How profoundly this change affected the control of leading systems is shown by the second column of percentages in our table on page 5. For each of the large companies actually controlled abroad in 1890–'96, the later proportion of foreign ownership declined to less than 20 per cent., and in some cases became almost a negligible quantity. Such railways as the Northern and Union Pacific, once largely owned abroad, became entirely domestic corporations.

Only a very few, like the Chicago Great Western, are still foreign owned enterprises. The causes of this profoundly important change are several. The predominant one, of course, was the abounding prosperity of the United States, which so far strengthened us financially and added to our store of capital available for investment, as to render us for the time at least independent of Europe. Another reason probably was the pronounced movement toward consolidation which set in about 1899. Many railways like the Lake Shore and the Burlington were merged in larger systems, through exchange of their share capital for collateral trust bonds of the parent companies. These exchanges were offered at most attractive prices for the most part, so that European investors were tempted to part with their bond holdings. Whether, as bondholders instead of shareholders, they have continued their investments in this country can only be surmised. One point is clear, namely that if it had not been for this opportune reduction of European interest in American railways, many of the consolidations of 1900 could never have been effected. That intimate co-operation of banking houses, insurance companies and railway managers, necessary to the prompt success of such operations, would have been impossible prior to 1898.

A revival of European interest in American railroads began with the heavy participation of foreigners in the Pennsylvania bond issue of 1904. And somewhat later, along about 1910, our financial dependence upon Europe was again increased by unfavorable trade balances. Particular attention was then devoted to France, one of the richest sources of capital for investment in the world. It had never interested itself in the United States as a field for exploitation.[1] Several important railroads succeeded about this time in negotiating foreign loans at Paris, among them the Pennsylvania, the Union

[1] Neymarck, *Le Rentier*, 1902, estimated that with upwards of $4,000,000,000 invested elsewhere in Europe, with $712,000,000 in Africa, only $204,000,000 was lodged in North America.

Pacific and the Chesapeake & Ohio. But this awakening foreign interest, particularly in France, was soon discouraged by several events. The New Haven, soon after disposing of a large issue of debentures in Paris, went to pieces; and the St. Paul, as we shall soon see, grievously shocked its constituents in connection with irregularities in financing its Pacific coast extension. American prestige was still further lessened by the bankruptcy of a number of other railroads, notably the unfortunate Gould group, the "Frisco" and the Rock Island. It is a deplorable feature of European investment — characteristic of several generations of experience — that interest is persistently manifested in speculative rather than conservative investment properties. Foreigners seem unable to learn the lesson that first-class American railway shares are often preferable to the bonds of second or third rate speculative or heavily over-capitalized enterprises; and that a railway bond, as some one has aptly put it, "should be known by the sort of company it keeps."

The outbreak of the European wars in 1914 focussed attention once more upon the considerable reliance of the United States upon foreign sources of capital. Our indebtedness abroad promised indeed for a season to bring about a severe panic. But the suspension of stock exchange operations, spreading enforced liquidation over a considerable period of time, seems likely at this writing to have averted trouble. Careful investigation[1] pointed to foreign bond holdings of about $3,400,000,000, — that is to say about one-third of the outstanding railroad mortgage indebtedness. Almost $75,000,000, that is to say about one-seventh of the capital stock of the Pennsylvania, was thus held abroad. And a number of other companies were likewise heavily involved, more commonly, however, in respect of bonds. Should one effect of the war be to lessen these outstanding obligations to Europe, the resulting concentration of attention of resident owners upon the manage-

[1] *Wall Street Journal*, Aug. 29 to Oct. 24 incl.

ment of their enterprises would be a clear gain to all parties concerned. Absentee ownership, an evil in any economic connection, has been particularly productive of harm in the case of American railroads.

The first railways in the United States were built from the proceeds of subscriptions to capital stock. All of the smaller roads radiating from Boston were thus financed. The Boston & Lowell issued no bonds for twenty years. The Boston & Providence, constructed in 1849, put forth bonds after a time aggregating about one-fourth of its share capital; but by 1865 had practically extinguished this mortgage indebtedness. Many other small New England roads even today have almost no bonds outstanding. Nearly three-fourths of the entire capitalization of the Boston & Albany up to 1908 was still stock. These conditions are all vestiges of the earliest practice in railway financing in this part of the country. Elsewhere much the same policy prevailed at the outset. The Baltimore & Ohio was largely financed by stock issues, a goodly proportion subscribed by the state of Maryland. The annual report of the road for 1844 showed $7,000,000 capital stock as against only $985,000 of bonds. The share capital of the Lackawanna road in 1854 was double its mortgage bonds. The New Jersey Railroad a year later was bonded for only about one-fourth of its share capital. And for the United States in 1855 the capital stock of all its railways exceeded the bonded indebtedness by 42 per cent. Even as late as 1868, after new styles in railroad finance had come into vogue, the capital stock of the railways of Ohio considerably exceeded in amount the aggregate of their outstanding bonds.[1] The southern states, led by Virginia, gave most of their aid in early days by direct stock subscriptions. This commonwealth alone took about $21,000,000 par value before the Civil War. Some of the early western roads, especially those like the

[1] Gephart, *Columbia University Studies*, vol. XXXIV, 1909, p. 168.

Atchison financed from Boston, depended largely upon funds raised from the issue of shares rather than from the sale of bonds. The early attempts at financing the Union Pacific were so fashioned. The first Federal Act authorizing construction of the Northern Pacific in 1864 actually prohibited bond issues — a restriction which had to be removed five years later. As will be seen, a radical change took place in subsequent years.[1] This was in part, especially after 1865, due to public aid given in the form of bonds; but it was also a change rendered almost inevitable by the general conditions under which capital for transportation purposes had to be raised.

The early practice of building by direct subscription to the capital stock of the company was satisfactory enough in the well-settled region of the eastern states. But no sooner did construction begin to extend into undeveloped territory than a new situation arose. The old plan had several manifest advantages. In the first place, it fixed responsibility directly upon the shoulders of the stockholders. By becoming the sole losers in case of mismanagement, a gage was given to the public for honesty and efficiency. Moreover, in case the enterprise exceeded the original estimates as to cost, additional resources were at command through loans secured by mortgages upon the line already built. But, on the other hand, this safe and simple plan was open to a number of objections revealed by bitter experience. The first of these was that the inevitable risk in novel enterprises or in the invasion of virgin territory, called for a corresponding promise of large and quick returns. In other words, such enterprises, instead of being solid investments appealing to a substantial local constituency, were essentially speculative. However great might be the local interest, most of the funds, except the land, must be obtained from remote capitalists in the eastern states or in Europe. The competition for such capital in view of the great opportunities for development was keen. Bonds might, per-

[1] Pp. 30 and 105, *infra*.

haps, be sold as conferring the security of a mortgage, but even they must be accompanied with inviting bonuses of stock in order to find purchasers.

In the second place, the plan of direct stock subscription was defective in that it failed to utilize the resources which a wise use of credit afforded.[1] If a portion of the capital could be had on a secured-loan basis of 6 per cent. and made thereafter to earn 10 per cent. with the resultant margin left over for the shareholders, it was certainly poor business to continue to raise all the funds on a direct subscription basis which called for a uniform rate of return of 8 per cent. on the whole capital employed. Under the old plan all the capital shared alike in risks and profit. Under the new plan of a divided capitalization, one portion, being guaranteed a modest return and protected against loss, was issued on an assured investment basis; the other portion, speculative in nature, was dependent upon the success of the enterprise for its return. Its chances of loss were not negligible; but its hope of large returns was inviting. This fundamental principle in finance, of a division of capital into two such distinct parts, was overlooked in the early simple practice.[2]

A third disadvantage of the simple plan of financing by stock issues alone, was that it made no provision for immediate profits to the promoter. The demonstrated success of the enterprise must be awaited in order that the stock should rise to a premium above its issue price. This presupposed a large command of capital and a permanent or long-time identification of the builder with the subsequent operation of the property. Unfortunately railroad building in the past too often fell into the hands of entirely irresponsible promoters, interested solely in the profits of construction, and impatient thereafter to pass

[1] This principle is admirably discussed in a recent New York case, Mayhew, etc., 2 P. S. C., 1st D., decided Oct. 20, 1911; as also in a Chicago Union Traction Co. decision, 114 Fed. Rep., 557. *Cf.* also Greene, Corporation Finance, 1902, and Lyon, Capitalization, 1913.

[2] *Cf.* table on p. 111, *infra*.

on to other fields of activity. To them the plan of stock subscription at par was altogether uninviting. Even if they were possessed of means, it was simpler to risk other people's capital than their own. On the other hand, a prime difficulty in financing solely by means of mortgage loans upon the railroad property as brought into being, lay in the fact that much preliminary expense in the way of surveys, estimates and other engineering work, together with options upon the right of way and necessary terminals, had to be incurred before any disclosure of the project was possible; and, necessarily, long before there was any property which could be made the basis of an issue of bonds. Some expedient was necessary at the outset to raise funds for these purposes. The risks in this connection were, of course, peculiarly great because it was always possible that the entire enterprise might come to nothing in the end. In such an event the promoters stood to lose every penny which had been expended in connection with the affair.

Legal considerations of weight constituted yet another objection to the early plan of construction solely from the proceeds of capital stock. Inviting subscription by offerings of stock at a discount — in other words, issuing it for less than payment in full at its par value — entailed certain inconvenient consequences in case of failure of the enterprise. In the eyes of the law, liability of the shareholders of a corporation toward creditors in case of bankruptcy or fraud, had taken the place of the former individual liability of partners. The familiar statutory provision that funded indebtedness should not exceed the amount of stock also gave expression to this theory that share capital was equivalent to assets, thus constituting a security for loans. Consequently innocent shareholders were sometimes penalized through being held liable for the difference between the face value of their shares and the price below par at which they had been issued. Yet while the courts would thus hold the original shareholders assessable, such liability did not extend to third parties. An expedient was therefore

necessary in order to make the general public "innocent holders for value." This could be done by the interposition of a finance company between the railroad and the subscribing public. The railroad might then issue its securities to this company in exchange for services and property in any proportion at the discretion of the directors. This operation in effect made the stock full-paid and without further liability for issuance at a discount, just as if the par value had been paid for in full by cash. The intermediary corporation set up for this purpose was generally known as a construction company. It might, of course, actually build the road and often did so; but fully as often it sublet the actual contracts. Not infrequently also in later years the construction company contributed to the evasion of hampering stipulations as to "after-acquired" property in general mortgages, in raising funds for branch line construction.[1] All of these services are financial rather than physical. This point cannot be too strongly emphasized. The construction company is a fiscal and not an engineering concern. It is an intermediary, standing between the railroad and the contractors. Consequently the absence of a construction company, as in the case of the St. Paul (Puget Sound) extension, does not necessarily mean that a railroad projecting a new line actually does the work itself. In either case professional engineering and contracting firms usually build the road.

The normal operation of a construction company nowadays may be made clear without specific figures.[2] A corporation is formed with a cash capital sufficient in amount to undertake the preliminary work. This company enters into an agreement with the railroad by which it is to receive stated amounts of bonds and stock upon each section of road as completed. It proceeds forthwith to build the line to the limit of its cash resources; and progressively receives the securities from the

[1] P. 125 *infra*.

[2] Meade, Corporation Finance, 1910, p. 114, gives an admirable example with detailed figures.

railroad as provided in the contract. These securities might, of course, be at once offered to the public (as indeed seems to have been done in the Colorado-Utah case on the Denver Northwestern in 1902 [1]). But inasmuch as a more favorable market would be had on completion of the work, the construction company more often makes use of the railroad securities as issued to secure temporary loans, based upon these as collateral.[2] With the funds thus raised, equal to 60 per cent., more or less, of the face value of the railroad securities deposited, fresh funds are obtained for another section of construction. Hereupon the same financial operation is repeated. The additional railroad securities received in payment for work done, are once more made the basis of new loans. Thus the process is repeated to the end.

The wind-up has to do with the final disposition of the securities in the hands of the construction company. The road is, let us assume, complete and in operation. The bonds last received and presumably unpledged are sold, with or without bonuses of stock as the case may be; and with the proceeds the temporary loans next in line are repaid. These, in turn now released, are used to clear up the next layer of indebtedness. Loan after loan is thus paid off, leaving the construction company at last with sufficient cash to settle with its own shareholders, distribute its assets and dissolve. These assets consist of two distinct portions. The first is the profit in cash from sale of bonds over and above the construction cost of the property. The other part is the residue of the capital stock of the railroad, left over after giving the necessary bonuses to promote the sale of the bonds. An essential of successful promotion, usually, is the reservation, after meeting such requirements, of a controlling interest in the capital stock as a whole.[3] This has usually been possible under the liberal statutes of most states.

[1] The construction contract is reprinted in Meade, *op. cit.*, p. 110.
[2] *Cf.* p. 309, *infra*.
[3] P. 40, *infra*.

Little or no cash payment for stock at issue being necessary, the amount could readily be made large enough to meet all possible needs. The final act preceding dissolution is to parcel out these holdings of railroad stock among the shareholders of the construction company. Or, on occasion, this share capital may be held *en bloc* by means of a voting trust or other agreement.

The foregoing description is not altogether typical historically. In a measure it presupposes a group of capitalist-promoters already in possession of or commanding large funds. For the construction company launches forth upon its career with a considerable paid-up cash capital to meet preliminary expenses. Suppose, as in the early days and sometimes at present, that the promoter having few resources, must in the first instance secure the capital for the construction company itself. Or he may conceivably have funds, but may desire to minimize his own risks at the expense of outside investors.[1] This primary difficulty of financing the construction company, for example, seems to have been great in connection with the building of the Kansas City, Mexico & Orient Road since 1900. The most inviting layout of securities was offered to investors, principally European, in connection with this striking enterprise in order to interest them preliminarily.[2]

In order fully to appreciate construction company practices in the early days, one must imagine a company of pro-

[1] The avoidance of undue personal liability seems to have been the only motive actually revealed in the New York Hepburn Committee investigation of 1879 in connection with the construction contracts of the elevated roads by the New York Loan and Improvement Company. This finance concern was the intermediary, its large stockholders being also directors of the railroad, which issued its securities through this medium in exchange for completed construction. (Vol. II, pp. 1–135.) The Contract and Finance Company and the Millbrook Company, in the N. Y., Westchester & Boston promotions, exercised functions not yet disclosed.

[2] P. 48, *infra*. Two construction companies were concerned in building this road. The invitation to subscription to their capital stock contained the following estimates as to the division of assets of the construction company on completion of the work. For each 100 shares of Union Construction Company (selling in 1910 for $13,000) investors were promised as follows:

moters not only devoid of capital but without any considerable assets in the way of character. The border line between speculation and fraud is sometimes ill-defined. But, to say the least, these two unfortunate features of speculation and fraud were too often associated with operations of this kind. From this circumstance the construction company has fallen into an ill repute, not perhaps wholly deserved. The following hypothetical example would seem to correspond pretty closely with the methods of the notorious Credit Mobilier and other companies concerned a generation ago in the construction of our transcontinental roads.[1]

$18,000	K. C., M. & O. 1st mortgage 4s (bonds).
$18,000	K. C., M. & O. 4 per cent. preferred stock.
$16,000	K. C., M. & O. common stock.
$ 6,666	K. C., M. &. O. town site stock.
$58,666	

Similarly for each 100 shares International Construction Company stock there were promised on dissolution:

$17,225	K. C., M. & O. 4 per cent. bonds.
$16,940	K. C., M. & O. 4 per cent. preferred stock.
$12,600	K. C., M. & O. common stock.

In addition to the above, each share of construction company stock received as a bonus:

5.5	shares Mexican Timber Field Company.
20	shares Rio Grande Coal Fields Company.
800	shares Mexico & Orient Town Site Company.
10	shares Chihuahua & Sinaloa Development Company.
20	shares Sierra Madre Development Company.

These extra bonuses for each 100 shares of construction company stock aggregated $56,402 par value. (*Wall Street Journal*, March 10, 1910.) Subsequent proceedings in connection with reorganization have resulted in an elaborate agreement of January 15, 1914, as to the conflicting claims of the railway and construction company to these assets. There is some evidence that the promoter set up all these different companies in order to play one off against another and keep control himself.

[1] On the Credit Mobilier two elaborate government reports of 1873 are available: Wilson Report, 42nd Cong., 3rd sess., H. R. 78; and the Poland Report, 42nd Cong., 3rd sess., H. R. 77. White's history of the Union Pacific Railway, 1895, is the best secondary source. Details are reprinted in chap. IV of our Railway Problems. (Rev. ed.) On Jay Gould's subsequent frauds upon the Union Pacific, consult Daggett, Railroad Reorganization, p. 232. The so-called Jay Cooke "pool" was the original construction company on the Northern Pacific. Oberholtzer, II, pp. 157 and 244.

A knot of promoters planning an enterprise, first formed a railroad corporation and authorized, let us say, capital stock to the amount of $1,000,000. This consisted of 10,000 shares, par value $100. The stock was issued to themselves part-paid ($10 per share) — $100,000 in all being temporarily borrowed by them individually for the purpose. A glowing prospectus then offered for sale two millions of bonds with the proceeds of which the road was to be built. These bonds were sold at 80, with perhaps a bonus of stock thrown in, thus realizing $1,600,000 in cash. From this the promoters reimbursed themselves for the $100,000 already advanced, by charging a 5 per cent. commission for marketing the bonds. This enabled them to pay off their personal loans. It left $1,500,000 cash in the treasury of the railway corporation as well as a controlling portion of its own capital stock. The next step was the organization by these same directors of a construction company, which built the road for an actual outlay of $1,200,000. The railway directors now voted to pay their construction company $1,500,000 in cash for this work and in addition the remainder of the share capital of the road. A profit to themselves of $300,000 plus the prospective value of the capital stock, which had cost them nothing, obviously resulted. If the enterprise were henceforth profitably operated, all well and good. If not, it might fail even to pay interest on its bonds. If bankruptcy ensued, a receiver, possibly representing the old stockholders rather than the bondholders, was appointed.[1] In any event the promoters had realized 300 per cent. on their first investment, itself borrowed, from the profits of the construction company. Moreover, they still controlled the railroad through its capital stock. Thus were the foundations of a number of large fortunes laid; enough, that is to say, to envelop American railroad construction in an atmosphere of disrepute by no means generally deserved.

Anticipated profits from speculation in land along the pro-

[1] P. 383, *infra*.

posed right of way were an important inducement to the construction of railroads in the early days. "In imagination every acre of land from Walker's Point to Snake Hollow has been plowed, sowed, fenced and is bearing forty bushels of wheat," says an early newspaper critic in Wisconsin in 1854. The promoters having decided upon their location, either purchased or pre-empted the most desirable tracts. From the sale of these, either to the railroad company for terminals or to the general public for town sites, ample returns for the risks of pioneering were expected.[1] The scrupulously conducted enterprises gave the full benefit of these land dealings to the railroad company; the others reserved the profits to the promoters. It is indubitable that without the profits from land sales, the construction of railroads would have been greatly delayed in the early days. It is also clear, however, that in some instances the railroads themselves were materially damaged by participation in matters of this sort. The Lake Superior & Puget Sound Land Company operations were inextricably entangled with those of the Northern Pacific at the time of its downfall in 1873. It would take us too far afield to attempt to deal with the details of these land operations in recent years. Sometimes where the officers of the railroad have honestly shared the profits of their sagacity and foresight, as in the case of the Great Northern ore lands in 1906, no criticism may be directed against current practices. But when, as in the recent gutting of the "Frisco,"[2] those in control of the railroad made secret profits of almost $9,000,000 out of the Brownsville and other extensions, the utmost condemnation is merited. There is an interesting possibility[3] that the Millbrook Company, which played some part in the collapse of the New Haven system in 1912–'13, was in reality engaged in real estate speculation along the line of the newly-

[1] Hassler, Railroad Rings, 1876, gives a number of concrete examples; also Oberholtzer, Jay Cooke, II, pp. 162–330.

[2] P. 41, *infra.*

[3] P. S. C., Mass., Opinion, Oct. 14, 1913, p. 14.

constructed Westchester road out of New York City. Over $3,500,000 not otherwise accounted for by the directors seems to have been turned over to this concern.[1]

The plight of the bondholders of a prematurely or dishonestly constructed railroad in the early days was unfortunate. Even if the receiver on taking possession truly represented their interests, the road might not have been completed through to an advantageous terminus. It might run up a tree, miles from connections or sources of traffic. Possibly, as on the Union Pacific, the parent company might have guaranteed interest or dividends on branch lines, the stock of which was still held by the promoters.[2] Necessary terminals, bridges or ferries might also be separately organized as corporations owned by the old directors. An inadequate supply of equipment, cars and locomotives might seriously embarrass the road; or the rolling stock might be controlled by a car trust, officered by the original promoters. Interminable delay and monumental legal costs in disentangling the conflicting rights of different classes of security holders, might make it expedient to agree to a compromise with all these blockading interests. Such might be the most practicable and the cheaper policy; and from this compromise, those originally intrenched in the enterprise might wrest still further profits.

Peculiar difficulty, even with the best intentions, attends the keeping of construction accounts in such manner as to show the true condition of affairs. Routine operation must often be carried on for a considerable time on the completed portion of line, while construction is under way at the rail head. It is difficult at best to keep the two affairs separate. Failure to distinguish them in the accounts leads to confusion and often-

[1] The Interstate Commerce Commission has been directed by the Senate to renew its examination of such details. Morgan & Co. published certain facts on March 9, 1914.

[2] 50th Cong., 1st sess., Senate Exec. Doc. no. 51, pp. 53, 65, 101 and 165, discusses the subject of branch line finance. *Cf.* Greene, *op. cit.*, p. 63, and Lyon, *op. cit.*

times invites manipulation. To cite only one detail, how shall the large volume of traffic in construction supplies be cared for? Shall it be charged full rates and credited to operation, or carried free as an item of construction cost? The only safeguard is to intrust the new work to a distinct corporation devoting its entire energies to that purpose. Thereafter from time to time settlement may be effected between this concern and the already operating properties. One of the serious abuses of early unstandardized railroading may be described in this connection. It had to do with juggling of the construction account, particularly with the item on the assets side of the balance sheet denominated "cost of road." The method may be described by the following illustration. Suppose the earnings of a railway to be $1,000,000. If its operating expenses be $600,000 for the same period, the "operating ratio," so-called, will be 60; that is to say working expenses amount to this percentage of earnings.[1] This operating ratio, showing the proportion of income left over after paying expenses, might be changed arbitrarily at any time by varying the definition of expenses of operation as distinguished from addition to capital. Suppose $200,000 to be the cost of some permanent improvement, such as a steel bridge, heavier rails or possibly a new piece of line. This item of $200,000 if paid for out of earnings, that is to say merged in the routine expenditure of the road, would raise the cost of operation to $800,000. The operating ratio would then become 80 and the road would appear to be in a somewhat languishing condition. If, on the other hand, the $200,000 above-mentioned were charged to new construction and paid for by the issue of an equivalent amount of securities, the operating account would not be affected. On another supposition the item of $200,000 may represent, not an addition to the plant or assets but a maintenance expense, called for in order to replace worn-out equipment or even to make needed repairs.[2] Such an item ought properly to be charged

[1] *Vide* Appendix II, *infra*. [2] *Cf.* p. 77, *infra*.

to operating expenses. The original $600,000 of such outgo ought to have included all such items. But if, instead of being charged to that account, it be entered on the construction account and paid for by the issue of new securities, the operating expenses would be apparently that much smaller. They would then become $400,000, and the operating ratio would be only 40. By charging operating or maintenance expenses in this way to new construction, the conduct of the property would be made to appear unduly profitable. The same thing would of course occur if, during the time that plant and equipment were new, not subject to heavy repair outlays, no provision were made for the future when such charges would in due time fall in.

Manipulation of construction accounts seems to have been not uncommon in the past. Its prevalence was one of the strongest arguments for prescription of the form of railroad accounts by law. Such juggling has been associated with most of the roads which at one time or another have figured in court or bankruptcy proceedings. During four years after 1868, Jay Gould while in control of the Erie ran up the construction account from $49,000,000 to $108,000,000. The assets remained practically unchanged. A part of this inflation was due to the entry of discount on illegally issued bonds among the assets;[1] but another part undoubtedly arose from charging actual operating expenses to construction account in order to deceive the public as to the condition of the road. Similarly on the old Union Pacific the operating ratio varied all the way from 23 to 61. From this latter figure in 1870 it declined to 41 in 1879.[2] The U. S. Pacific Commission of 1888 states that the construction accounts of several railways at that time were thus inflated, either wilfully or because of the chaotic state of affairs at the time.

Despite the best efforts of the government in recent years to bring about standardization, most of the above-mentioned

[1] *Cf.* p. 277, *infra*.

[2] 50th Cong., 1st sess., Senate Exec. Doc. 51, pp. 53 and 87.

accounting practices cropped out in connection with the construction of the St. Paul extension to the Pacific coast.[1] Desiring to create a favorable market for the sale of securities in France, all interest, rents and revenues for the three years of construction work were included in the income account for 1910 alone. At the same time operating expenses were reduced by crediting items, such as salvage from cars destroyed, as far back as 1907. By this means the income of the St. Paul was overstated in that given year by more than five million dollars. This operated very unfavorably, of course, upon the next year's comparative results, which were based solely upon twelve months' operations. The effect upon the stock quotations was naturally pronounced. Notwithstanding the gravity of these offences, the delinquencies in the accounting of the Puget Sound company itself were even more significant. Most of the classical expedients above-mentioned for over-stating income were resorted to. After the opening of the main line in 1909, construction work upon the branches continued for some time. Expenditures for construction and operation were thus being made simultaneously. It was possible, therefore, to include large amounts in cost of construction which should have been charged to operation. Construction material was actually charged higher rates than those provided for in published tariffs. Interest items were manipulated, and no charges whatever for depreciation of equipment were made. Had the established accounting practice been adhered to, the reported income of $2,255,000 would have been practically eliminated, and the dividend of 2 per cent. paid to the parent company out of "income" would really have come from capital. It may confidently be expected, however, that the Interstate Commerce Commission, now sure of its authority since the recent decision of the Supreme Court in the Kansas City Southern case,[2] will rigidly enforce the law in future.

[1] 29 I. C. C. Rep., 508. Pp. 34 and 37, *infra*.

[2] 231 U. S., 423. P. 233, *infra*.

An interesting picture of early American practice is afforded by the following excerpt from letters of John M. Forbes with reference to the situation on the so-called River Roads in Wisconsin in 1873.[1] Forbes, representing eastern bondholders, discovered that six of the twelve members of the board of directors, including the president, were also stockholders in a construction company. The following dialogue refers to a contract by the terms of which the construction company was released from any obligation to build after its funds were exhausted, despite the fact that the railroad companies had already paid $25,000 a mile for fifty-five miles of road which had not yet been constructed.

"Question to the president: 'What have you been doing with the company's money?'

"Answer. 'I have been paying the notes which I have given as president.'

"'What are the notes? Where is the record of them? Is it in the treasurer's account?'

"'It is not in the company's books, but can be ascertained.'

"'What were the notes given for?'

"Answer. 'Chiefly to meet the obligations of two construction companies, of which I was president also, and which built the roads of each company by contract.'

"'Then you, as president of the railroad company, are paying yourself as president of the construction company, without the supervision of the treasurer or of any one else, and without any auditing of your accounts?'

"'Yes.'

"'Has the construction company received the full amount of money, of stocks, of lands, for which they agreed to construct and equip the roads?'

"'Yes, they have, leaving unfinished about forty miles of Turkey branch and twelve miles on the lower road.'"

The imminence of financial abuse in connection with con-

[1] Reprinted in Ripley, Railway Problems, rev. ed., p. 85.

struction by inter-related corporations is well illustrated by the unhappy experience of the Hampden Railroad in 1913 in Massachusetts.[1] A short connecting link between the Boston & Maine system and the New Haven lines to New York for summer passenger traffic to seashore resorts in northern New England was desired. For this purpose about fifteen miles of road was built out of Springfield, Mass. This work was done for the so-called Hampden Railroad by the Woronoco Construction Company, the Boston & Maine planning to guarantee the interest on the bonds and 5 per cent. on whatever capital stock it was necessary for the Hampden Railroad to issue in order to finance the enterprise. One Gillette, chosen by the president of the New Haven road, which then controlled the Boston & Maine, was selected to put through the enterprise. He first organized the Hampden Investment Company, which took the entire capital stock of the railroad corporation of the same name. This concern then negotiated loans upon the deposit of this railroad stock as collateral. The same individual "who was the Hampden Railroad corporation" thereupon entered into an agreement with his own personally conducted construction company to do the work. This concern was to be paid upon the cost plus 10 per cent. commission as profit for its services. No adequate supervision was apparently exercised by the principal railroads, either as to the conduct of the work or its ultimate cost. The construction company immediately sublet the contracts for building the road for about two-thirds of the price generally agreed upon with the Boston & Maine. Its actual service, for profits sometimes as high as 40 per cent. in addition to its guaranteed 10 per cent., consisted largely in securing the right of way. Obviously under this general arrangement the greater the actual outlay, the greater the profit to the construction company. No better premium on reckless expenditure or downright fraud could well have been devised. The final result is significant. Despite

[1] 27 I. C. C. Rep., 604; P. S. C., Mass., Opinion, Dec. 24, 1913.

the fact that this was a single-track line with no equipment and no terminals, the outlay was approximately $250,000 per mile. The average capitalization for the railways of the United States and the other roads in Massachusetts is about one-fourth that figure. Other railroads built about the same time for the heaviest traffic through rugged country and in the most perfect way, including all appurtenances,— the Virginian and the Carolina, Clinchfield & Ohio, for example,— cost only about $120,000 per mile.[1] The rental to be saddled upon the Boston & Maine under such conditions would be at least four times the average rental of all its other leased lines, including parts of its main stem.

This extraordinary operation seems to have gone on without any supervision whatever by the then-degenerate management of the consolidated New England railroads under the Mellen régime.[2] Nor did the savings bank or other financial institutions which advanced the necessary funds seem to have exercised due care in the premises. The matter necessarily came before the Massachusetts Public Service Commission in connection with its approval of the necessary issue of securities. By a majority opinion about $1,000,000 of the alleged actual cost, representing roughly the profits of the construction company, was disallowed. But a capitalization for this insignificant property of $220,000 per mile was still permitted. As the vigorous dissenting minority opinion stated, this decision, to be sure, reduced the alleged cost per mile by an amount about equal to the total average capitalization of other Massachusetts railroads; but in law, economic principle and sound public policy it rested upon an utterly untenable basis. It practically legalized fraud upon the stockholders of the Boston & Maine Railroad. Whether it was subsequently to permit a final incidence of the burden of an excessive rental upon

[1] *Railway Age Gazette,* vol. LVI, 1914, p. 935.

[2] Similar construction companies seem to have played some part in other trolley operations of the New Haven road, the same individuals who directed the Woronoco Company being apparently in charge. (27 I. C. C. Rep., 580.)

the general public, happily still depended upon approval by the commission of the lease of the property upon the agreed basis. The whole episode illustrates the danger incident to interlocking directorates. No person in control of a railroad ought to be allowed to stand in such a relationship that in one capacity it is to his interest that work should be done at the lowest possible price, while in another capacity it will be to his profit to have it performed for a maximum figure. The exercise of good faith, disinterested judgment or prudence is rendered difficult under such conditions.

Recent experience in another case is valuable as showing the manner in which, even though honestly administered, the finances of a railway and a construction company tend to become almost inextricably entangled. The Atlanta, Birmingham & Atlantic road was projected in 1905 to combine several existing properties and to build a new through line several hundred miles long connecting Birmingham, Ala., Atlanta and the seaboard. Building was done by the Atlantic & Birmingham Construction Company, with a capital stock of $8,000,000, cash paid in full. It was to receive bonds and stock of the railroad in payment for work done in the usual way. It also controlled coal lands, water and other terminals and various concerns necessary to the operation of the property. The cost evidently greatly exceeded the estimates and the railroad went into the hands of receivers in 1906. About $30,000,000 seems to have been spent upon the enterprise, a sum about equal to the total funded indebtedness.[1] The

[1] The following statement of receipts to 1909 indicates the nature of the operations by which capital was raised:

Share capital, Construction company, cash	$ 8,000,000
Sales of railroad bonds at 87½	3,800,000
Sales of railroad stock, preferred shares at 50, common shares at 15	1,000,000
Terminal and coal company bonds, etc	8,000,000
Joint collateral trust notes of the railroad and of the construction company	7,400,000
Construction company collateral notes	800,000
Odds and ends	....
	$29,000,000

peculiar feature, differentiating this case from other recent ones, was the interlocking of railroad and construction company finance. Being in straits in 1906, a large issue of collateral trust notes was made jointly by the two companies on the security of their combined properties. Bonds and stocks of coal companies, steamship lines, terminal corporations and the railroad, so far as unpledged, were deposited under this agreement. The result of course was that, although the railroad was completed and in operation, the construction company was automatically kept alive as a finance concern during the term of these outstanding joint securities. It could not be dissolved nor could its assets be distributed to stockholders, as is usual under more favorable circumstances. Meanwhile, a maze of financial entanglement obtained, not only in respect of capital account but of physical operation as well.[1]

A construction company may occasionally, not as in the foregoing instance by force of circumstances but by deliberate choice, continue in existence long after the railroad is finished, and by holding all or a majority of the railroad stock absolutely control its destinies. Thus the Aroostook Construction Company, organized in 1893, not only still holds the Bangor & Aroostook Railroad in Maine in the hollow of its hand; it also administers the affairs of a number of necessary subsidiary companies, operating telegraphs or holding lands or terminal properties. With a funded debt in 1911 of $22,495,000, the capital stock of the railroad amounted to only $3,000,000. This was all owned by the construction company. The stocks of all these inter-related corporations were so apportioned among a very small number of persons that a perfect equilibrium in control maintained. Still further to insure concentrated and continued control, the construction company was placed in the hands of three voting trustees. The profitableness of this arrangement would seem to arise as much from the fact

[1] *Railway Age Gazette*, vol. XLVI, 1909, p. 224.

that all extensions of line were built by this construction company as from its regular dividends upon the shares of the railroad which it owns. Meeting the cost of construction by bond issues, the amount of such shares thus closely held, would seem to be immaterial as affecting the public interest. Market prices many times the par value per share for the construction company stock, would seem to reflect the private advantage of the restricted capitalization of the railroad. The liberal provisions of the Maine law in this regard, the property being entirely intra-state, seemed to provide for no supervision as to the nature or amount of the securities which might be put forth. The Southwestern Construction Company is another corporation of the same type serving as a holding company for a highly elaborated nexus of inter-state roads. It serves to bind together a number of properties comprised in the "Queen & Crescent" system in the South.[1]

By way of contrast with the irresponsible, wasteful or fraudulent methods which too often prevailed in connection with the opening up of the West and South, the experience of a sound and conservative company may well be cited. In conformity with the early practice, the nucleus of the great Chicago & Northwestern system began in 1847 by subscription to the capital stock of a small company. No bonds at first seem to have been contemplated. But it soon became apparent that resort to borrowing must be had. Of the cost, which was $405,000 for the first 42½ miles of line from Chicago to Elgin, Ill. in 1850, about two-thirds was raised on share capital, apparently taken at par. Four years later, with 260 miles of line and a total outlay of $8,300,000, less than $3,000,000 had been received from sale of bonds. No bonds were issued for less than par until the panic of 1857. The following apologetic explanation from the president of the company at that time is worth quoting:

[1] Diagram on p. 444, *infra*. The Virginian Railway stock prior to 1912 was all held by the Tidewater Co., which seems to have built it.

"The discount on the bonds is simply the amount of interest to be paid, over and above the rate stated, which interest (represented by the discount) is embraced in the face of the bonds, and will be paid at their maturity instead of semi-annually."

The relatively high proportions of capital raised for many years by the Northwestern through the issue of stock, instead of resorting to the expedient of borrowing, is indicated by the following figures:

	Capital stock	Bonds	Per cent. bonds
1861	$ 6,000,000	$ 3,500,000	36.8
1871	35,800,000	16,200,000	31.1
1880	36,500,000	50,100,000	57.8
1885	53,000,000	91,500,000	63.3
1896	63,700,000	....	....
1906	122,000,000	156,000,000	56.1
1911	152,000,000	163,000,000	51.7

It is apparent that the first fundamental change in policy came in the '70s, probably as a result of the long depression following the panic of 1873. The contrast between capital stock more than double that of indebtedness in 1871 as against only three-fourths as much in 1880, is striking. Either capital was hard to obtain at home or else the purchase of leased lines through issues of bonds accounts for this change in policy.

The natural trend of capital of a conservatively financed company back to at least an equivalence between shares and bonds seems to have occurred on the Northwestern progressively after the middle of the '80s. The top-notch of indebtedness, relatively, coincides with the speculative period which culminated in the railroad panic of 1884. Since that time, and particularly since 1900, the continued emission of new stock at par, partly in order to raise necessary funds for extension and partly also to furnish a broader base on which to distribute growing surplus earnings, is noteworthy. At least until the problems raised by rate regulation on the one hand and increased

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The enlargement or extension of an old and well-established system is a much simpler affair than the financing of a new and independent railroad. In recent years the construction company as a fiscal agent has become practically obsolete in the former class of enterprises on the standard systems. The superfluous credit of the main company is extended to cover the new construction.[1] Such building, however, for various

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The recent financing of two ambitious construction projects illustrates the prevailing practice at present among established companies. The Western Pacific extension of the Gould system in 1903–'10, called for the building of almost 1,000 miles of line in order to provide an independent outlet to the Pacific coast.[2] The credit of the Denver & Rio Grande, an allied Gould property, afforded the foundation for its financing; but it, in turn, relied for support upon the Missouri Pacific. Two-thirds of the capital stock of the new company and an equal proportion of the first mortgage bonds, were given to the Rio Grande in exchange for advances of cash. In addition, as

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Among several immediate results of the American practice as to construction, particularly where intermediate finance companies are employed, the first and most important is probably an excessive issue of securities in proportion to actual investment. The construction company almost inevitably invited over-capitalization. Instead of substantial subscription to capital shares for cash, bonds were put forth and stock was thrown in for little or nothing. This, to be sure, was probably necessary to some degree. The point to be made is that the practice was overdone. In other words, exception is taken, not to the nature of the financial plan but to the extreme limits to which it was carried. A few concrete illustrations may serve to make the practice and results plain. The experience of the Credit Mobilier with the building of the Union Pacific is highly involved and, in many respects, discreditable. Fortunes were lost and made, and many reputations were besmirched. The final outcome seems to have been this: that about $111,000,000 of securities were issued in order to raise $74,000,000 of cash, to construct a railroad which actually cost about $60,000,000. In other words, capitalization exceeded cost in the proportion of two to one. Another classical example is found in the activities of the North River Construction Company in building the West Shore Railroad in the '80s.[1] In this instance, the railroad company was to deliver stocks and bonds amounting to $75,900,000 in exchange for an actual investment of only $29,000,000. One of the flagrant instances, not only of over-capitalization but of subsequent fraud upon the stockholders of the railroad, was the building of the Central Pacific Railroad from Sacramento to Ogden.[2] This work was done under the so-called Crocker contracts. These were carried out by a certain Contract and Finance Company, whose

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"The discount on the bonds is simply the amount of interest to be paid, over and above the rate stated, which interest (represented by the discount) is embraced in the face of the bonds, and will be paid at their maturity instead of semi-annually."

The relatively high proportions of capital raised for many years by the Northwestern through the issue of stock, instead of resorting to the expedient of borrowing, is indicated by the following figures:

	Capital stock	Bonds	Per cent. bonds
1861	$ 6,000,000	$ 3,500,000	36.8
1871	35,800,000	16,200,000	31.1
1880	36,500,000	50,100,000	57.8
1885	53,000,000	91,500,000	63.3
1896	63,700,000	....	....
1906	122,000,000	156,000,000	56.1
1911	152,000,000	163,000,000	51.7

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sole stockholders were Messrs. Stanford, Huntington, Hopkins and Crocker, all directors at the same time of the Central Pacific Railroad Company. The profits from these agreements, in the words of the U. S. Pacific Railroad Commission, "will be found to pervade all contracts for construction, for repairs, for branch lines, for leases of the auxiliary lines, for the express, for the sale of material, and for the sale of coal." They accrued almost entirely to the benefit of these persons who, theoretically, stood to represent the interest of the shareholders of the railroad. The commission condemned the course pursued as "wholly indefensible" and "necessarily absolutely destructive of all business security." For much of the original construction the cost to the railroad in securities was approximately $100,000 a mile, whereas the physical investment amounted to about one-half this figure. For one section, for example, concerning which the facts were ascertained in detail, the total cost of the road and equipment was $3,500,000. These four directors of the railroad voted themselves $8,300,000 in railroad securities in payment. Precise details concerning many parts of the line are not to be had, because the books "were purposely destroyed by direction of Stanford, Huntington, Hopkins and Crocker. The evidence on this point appears to be conclusive." Even the bonds alone always exceeded at par the actual cost of construction. The stock represented no investment whatever. This seems, in fact, to have been the general rule at that time.[1]

[1] Hassler, Railroad Rings, p. 18; and Cleveland and Powell, Railroad Finance, p. 62, give a number of interesting minor examples.

As illustrating the uses of railroad stock in early days, B. H. Meyer in his History of Railroads in Wisconsin cites the following par value of gratuities in promotion of legislation in 1858:

$175,000 to members of the senate,
$355,000 to the assembly,
$ 16,000 to clerks,
$ 50,000 to the governor, and
$246,000 to others.

It would appear that this ought to "loosen the joints" of legislation. Yet, Stickney mentions the case of a French half-breed member of the legisla-

From the point of view of public interest in security issues, certain features of recent direct construction by sound and established companies are open to criticism. The St. Paul transcontinental extension is a case in point. Its construction account seems to have been manipulated without excuse either on the ground of lack of public credit, disaffection of its own shareholders or inordinate risk of the enterprise. Recalling our outline of its financial operations on preceding pages,[1] it appears that the total cost of construction was in the neighborhood of \$155,000,000, — \$100,000,000 of which was raised from the sale of St. Paul stock to its own shareholders advanced in exchange for bonds of the new company, and the balance from bond issues of the Puget Sound company. Yet in the first annual report of this latter corporation for 1910, its property investment was entered on the books at \$236,000,000. A year later the Puget Sound company valued its corporate estate at \$269,000,000. How may we account for the discrepancy between a cash outlay of \$155,000,000, more or less, and the book valuation of \$269,000,000? The explanation is simple. Something had to be added to the property investment on one side of the account in order to balance the total of long-term obligations by which the funds were actually raised, and the \$100,000,000 of capital stock, put forth for nothing. Certain provisions of state law have a bearing upon the matter. The Puget Sound was a Washington corporation and the law there provided that bonds could be issued only up to a face value of double the capital stock. The law, following the rule in most other commonwealths, also forbade the issue of capital stock except for an equivalent at par in cash or property. If all funds were to be raised from bonds, allowing a sufficient margin for unforeseen contingencies and preserving the requisite relation between bonds and stock, there was no other

ture in Minnesota who, when offered the choice, took \$10 in cash rather than \$100,000 in stock of a projected railroad.

[1] Pp. 23 and 34, *supra*. Map on p. 477, *infra*.

alternative than to issue this large amount of stock. But in order to meet the second provision of law, in form although not in substance, a property valuation must appear, large enough to cover both bonds and stock. How simple, therefore, merely to write up the property valuation sufficiently to meet the needs of the case. Moreover, this large issue of capital stock makes it easy in future years to distribute large earnings without the appearance of an inordinately high rate of dividends. The whole episode constitutes an additional argument in favor of physical valuation. It also emphasizes the need of comprehending all construction accounts under the jurisdiction of the Interstate Commerce Commission. For the practice followed in this case amounts to an absolute violation of the prescribed rules for accounting of operating railroads.

It may well be asked at this point what other course the St. Paul might have followed under the circumstances. The answer is ready. Inasmuch as the parent company not only controlled but financed the whole affair, it might just as well have taken payment for its advances to the Puget Sound partly in bonds and partly in stock. No spicing of the bond issue by so large a stock bonus was needed under the circumstances. Conformity with the state law might truly have been obtained by an original issue of $25,000,000 of Puget Sound bonds and $75,000,000 of stocks in exchange for the cash originally raised. The stock would then have been put out full-paid in cash, and subsequent bond issues to a total of $150,000,000, sufficient to provide for future expansion, could have ensued. To the parent company the same measure of control as at present would have resulted although with lessened safeguards against loss in case of bankruptcy. But the likelihood of failure is too remote to receive serious consideration. The real inwardness of the operation is disclosed at this point. The larger the stock issue, the wider the base on which future earnings may be distributed as dividends; and the greater the

burden which the public may be called upon to bear by way of rates for service. Incidentally, although by no means unimportant, in addition to the public aspect of the matter is the possible deception to outside shareholders who conclude that an entirely fictitious valuation of assets of the parent company is in reality a true one. To reply that the parent company has no interest in the capital valuation of its subsidiary road, but merely in the returns which it may receive as dividends, might not satisfy a future bondholder who purchased securities on the strength of the balance sheet statement as to the total value of the assets. Under present conservative management all may be well. But who shall say that some day, abuses like those on the Alton and the "Frisco" may not occur?

The charge of over-issue of securities in connection with construction calls for further explanation. It is primarily directed, of course, against the excessive emission of shares of stock. Bonds must oftentimes be put forth at a discount where pioneer risks obtain, even by the most conservatively financed enterprises.[1] They might, of course, be sold at par, whatever the risk, were the rate of interest sufficiently high. But such a policy at once lays a heavy burden upon the company in the days of its infancy and weakness. Fixed charges must be kept low at the outset (or else manipulated out of construction account, as already described), even though a day of reckoning at maturity of the bonds is certain. For then the debt must be discharged at par, regardless of the net proceeds at issue. But the discount, distributed over the intervening years and reflected in the rising market quotations, offered a reward over and above the current interest rate, which tempted the investor at the outset. Bonds put forth at a discount are thus merely an expedient for postponing the requisite reward to capital until an anticipated future when the enterprise can afford to pay. It is clear, moreover, that oftentimes a substantial flavoring of capital stock must be added to bonds, to the end

[1] P. 277, *infra*.

that the appetite of investors in pioneer roads may be still further stimulated.

Criticism of construction finance in this connection has to do, not with those shares issued to the public in connection with bonds at less than their face value, but with the excessive amount of such shares over and above these, which were retained by the promoters for purposes of control. The construction profits were the promoters' cake; in issuing enough stock to leave them a majority of railroad stock thereafter, they were enabled to eat it too. For, as already observed, a common feature of the construction contracts, not usually stated in connection with the public offering of securities, was the reservation at the wind-up of a controlling interest in the capital stock of the railroad by the construction company itself.[1] The further profits of the professional promoter over and above those already realized from actual construction, were then dependent upon the sale of these remaining shares to the public. This might be honestly done; or a market might be made by the improper manipulation of operating accounts. But in either event a "vast issue of paper obligations" was created; [2] in no wise related either to the actual investment or to the earning power of the railroad. This retention of control of the capital stock, quite irrespective of the share capital already put forth to promote the sale of bonds, affords the basis for the conclusion that construction company methods were too often essentially tainted so far as the public interest was concerned. A comparison of pioneer enterprises like the building of the Great Northern and the Northwestern, already described — simply and directly financed from within — with the construction of the Union, the Central or the Southern Pacific, financed through construction companies, makes this point quite clear.

[1] Such a clause reserving half the capital stock appears in the Colorado-Utah Construction Company offerings of Denver, Northwestern & Pacific Railroad securities in 1902.

[2] U. S. Pacific Railway Commission, 1888, p. 52.

Irresponsible or possibly fraudulent corporate management, menacing alike the interest of the public and investors, has too often been a second unfortunate accompaniment of American railroad construction. A complete divorce between actual administrative control and real ownership has too often resulted from the methods of finance employed. Practically all the funds were contributed by bondholders, having no voice in the management until bankruptcy occurred. Yet the promoters as managers controlled a majority of the capital stock. They had in fact given no cash hostages to fortune. Their profit had already been taken from construction. While subsequent operation might serve for their further enrichment by a continuation of construction company methods, as already described, their relation to the company was no longer constructive in form. Nor was the relation of the management to the public any more satisfactory. No one was really responsible for what occurred. Such an anomalous situation arose in the '80s respecting the liability of the Central Pacific to the United States for unpaid interest on Federal grants in aid of construction. A practical *impasse* existed. "The United States *cannot* sue, because the debt is not due. The corporation *will not* sue, because it is controlled by the wrongdoers. The (other) stockholders *dare not* sue because, under the laws of California, they are personally liable for the obligations of the company." [1]

Recent experience, most unfortunately, is not free from similar instances of grave abuse in connection with the finances of construction. The most shameful case in years — most to be deplored at a critical time because of the unmerited but natural implication that similar practices prevail widely on other roads — is revealed by the official investigation of the receivership of the St. Louis & San Francisco in 1914, and by subsequent proceedings in the courts.[2] This railroad in 1897 entered upon a policy of expansion in the Southwest. Within

[1] U. S. Pacific Railway Commission, 1888, p. 80.
[2] 63rd Cong., 2nd sess., Senate Doc. 373, 1914; 29 I. C. C. Rep., 139.

a decade, 2,375 miles of line were added to the system — an increment in itself double the original mileage. This programme ended abruptly in 1907. No further extensions took place; but it required six years of further financial mismanagement to bring about the final collapse. Most of this new mileage was constructed independently, generally by syndicates or construction companies in which the directors and prominent officers, notably B. F. Yoakum, chairman of the Board of Directors, were heavily interested. The properties were then turned over to the "Frisco" at greatly enhanced figures. It was the accumulated burden unloaded upon the railroad in pursuance of this policy which finally broke its back.

Roads	Amount paid in	Profit
Oklahoma City & Western	$ 2,097,043.95	$ 369,278.82
St. Louis, San Francisco & New Orleans	5,300,000.00	837,400.00
St. Louis & Gulf	2,700,000.00	1,385,633.62
St. Louis & Oklahoma City	1,000,000.00	556,150.00
St. Louis, Oklahoma & Southern	3,423,432.10	719,574.90
Adkins Valley & Western	3,046,635.00	589,767.32
New Iberia & Northern	2,000,000.00	500,000.00
St. Louis, Brownsville & Mexico	3,981,000.00	3,011,928.95
Colorado Southern, New Orleans & Pacific	3,000,000.00	375,000.00
Total	$26,586,111.05	$8,444,796.51

The foregoing summary of these syndicate operations is more eloquent than mere descriptive text. The second instance with a profit of $837,400 upon an investment of $5,300,000 is noteworthy, considering that the deal was consummated within little more than a year. It may be noted in passing that in the sale of this property to the "Frisco," the common stock, amounting to $6,000,000, was simply thrown in for nothing in order to give good measure. An equally irregular transaction concerned the construction of a line to Brownsville, Texas. In this instance, as the table shows, a profit of 75 per cent. on the investment was made, with heavy

participation on the part of Yoakum. The cost of this road was $8,932,000. For this the "Frisco" paid $12,123,000. A substantial allowance should be made for interest; but even then the price paid was surely excessive. Few construction companies figured openly in these dealings; but the so-called Gulf Construction Company stood in the background. A pitiful apology[1] by Yoakum for his singleness of purpose in making profits, not *for* his stockholders but *from* them, set forth that his gains on an investment of $810,000 were only $288,000 — that is to say, only $151,000 in excess of a 6 per cent. return on the capital. The whole episode is disheartening as a revelation of corporate wrongdoing. It must not for a moment be considered as typical. Yet it and the New Haven collapse in 1913[2] indicate the possibilities of abuse in the absence of strict governmental regulation of railroad finance both in the interest of the public and of private investors. With the Hampden Railroad case, already described, it seems bound to bring about restrictive legislation by the Federal government to prevent such occurrences in future. The financing of the St. Paul extension may also very properly lead to the inclusion of all construction accounts, not at this writing subject to the same regulation as for operating companies, under the jurisdiction of the Interstate Commerce Commission.

Premature or excessive building was unquestionably a third result of American construction methods. Irresponsibility joined hands with energy and optimism in bringing about a vast amount of over-building. Jay Cooke's "Banana Belt" along the proposed Northern Pacific with its "monkeys and orange groves" was the object of popular derision at the time.[3] Duluth, "the Zenith City of the Unsalted Seas," and its *Hinterland* have hardly disappointed those gifted with prevision in the early '70s. But it has taken time to bring those iridescent

[1] *Railway Age Gazette*, 1913, p. 1197.
[2] P. 251, *infra*.
[3] Oberholtzer, Jay Cooke, II, pp. 127 and 309.

dreams to fulfilment. The paths of railroad promotion are littered with disappointment. The railroad panic of 1884 was a notable example of disaster resulting from such causes.[1] And many of the receiverships of 1893–'97 were the necessary outcome. Lines were pushed far in advance of population and into regions unpromising even in the remotest future. Had the promoters been forced to link their fortunes permanently with the railroads by actual personal investment, looking to dividends as a reward rather than to the profits of construction companies and such devices, much loss might have been avoided. The chief sufferers, of course, were foreign bondholders or investors in New England and the other eastern states. But the loss from impaired American credit and prestige fell also upon even the most conservative enterprises. Nor can it be doubted that the recent scandals on the New Haven and "Frisco" systems will for many years lay an undeserved burden upon the financing, both at home and abroad, of the great majority of sound and honestly managed properties. And companies like the St. Paul, with enviable reputations in the past for straightforwardness toward the public and their own shareholders, will be viewed with popular distrust even more than their recent lapses from virtue deserve.

A grievous waste of money in building the Grand Trunk Railway in Canada,[2] partly due to downright extravagance and fraud, but a part also to failure properly to correlate the standard of construction and the probable traffic, has recently occurred. At the outset in 1903 when the agreement for lease of this road from the government by the Grand Trunk Pacific for 3 per cent. on the cost of construction was made, the preliminary estimates were $30–35,000 per mile. But by 1911 the original appropriation of $61,415,000 had risen by actual expenditure to $109,000,000, with the probability of a total

[1] The activity of the period is described in Ripley, Railroads: Rates and Regulation, p. 27 *et seq.*

[2] Report National Transcontinental Railway Investigating Commission, 4 George V, 1914, sessional paper no. 123.

outlay at completion of $161,300,000. Counting principal and interest to 1922, when the 3 per cent. lease becomes operative, the total cost now promises to rise to $235,000,000. Exhaustive investigation already discloses that east of the St. Lawrence river alone $40,000,000 was needlessly expended. On 806 miles of line eleven contractors made profits of $8,800,000 on work which was entirely done by sub-contractors. Evidently construction company methods are not unfamiliar to our Canadian neighbors. Every detail, such even as retention of control of the common stock by Mackenzie & Mann, the construction company, will be found in evidence. The methods employed in padding construction company accounts were precisely of a stripe with those used on the Hampden Railroad above described.

The standard of construction was also undoubtedly influenced by the modes of finance employed. Imperfect and makeshift work was often an economic necessity; sometimes merely a financial product. About 200 miles of the old New York & Erie was built on piles, as was also the South Carolina Railroad, "excavation having been avoided as much as possible and embankments omitted altogether, by which the expense of grading has been very little."[1] The report of the receiver of the Texas & Pacific in 1885 as to the "wretched condition" of the property due to "inferior construction and inferior material"[2] was by no means an isolated case. John M. Forbes in his reminiscences[3] strongly condemns the "cheap contractor's road to sell" as distinct from the "solid one adapted to be held and used for business purposes." Such makeshift properties unloaded on the Burlington system came to be known in Boston as "cats' tails." All forms of construction were necessarily experimental at first. Every detail, whether of gauge, of equipment or even of actual location of the right

[1] Ann. Rep. State Engineer on N. Y. Canals, 1862, p. 145.
[2] *Com. & Fin. Chron.*, vol. XLI, p. 714; Cleveland and Powell, p. 64.
[3] Ripley, Railway Problems, rev. ed., p. 90.

of way, was subject to change, — it might be many times before matters became finally standardized. The reaction against permanence of construction, as well as the actual financial necessities of the case, in any event encouraged cheap and makeshift construction. But the American professional promoter certainly left in his tracks a record of imperfect work unique in the history of transportation.

A direct result of the scarcity of capital and the experimental or speculative nature of American railways was in general a markedly lower construction cost than prevailed in other countries. It is certain that even at the present time American capitalization per mile of line is approximately half that of the Prussian state railways, and less than one-quarter of that of railroads in the United Kingdom. First cost would naturally have been less in any event than in Europe because of the abundance of free land and the practice of conferring the right of eminent domain upon such enterprises. This latter privilege obviated the necessity of acquiring the right of way by individual bargaining, often at exorbitant prices. There is evidence to show that $20,000 a mile in England was often required for such purchase of the right of way.[1] As for the cheapness of such items as ties, the abundance of available timber in America was doubtless more than counterbalanced by the higher cost of rails and a far more liberal scale of wages.

On the other hand, as against the manifest dangers of cheap or makeshift construction, a far greater elasticity of policy undoubtedly resulted therefrom. An early location might be abandoned in favor of a better one without great loss. Expensive cuts and fills, bridges or stone-work did not stand in the way of improvement. The elimination of grades through costly tunnels did not, as in Europe, make the introduction of new and larger types of rolling stock an utter impossibility because of insufficient clearance. All along the line a habit of mind was engendered of regarding the existing plant as being

[1] *Cf. Railway Age Gazette*, 1913, p. 1137.

merely provisional—at any time subject to change or abandonment. Yet, of course, even this sound practice must be applied with certain limitations. It is a truism to assert that the amount of the original investment and the consequent standard of construction must be consistent with the nature and volume of the anticipated traffic. On the one hand, an underbuilt and inadequately equipped road, considering its business in sight, is always operated ineffectively. A "streak of rust in the desert" can scarcely be expected to yield satisfactory returns. Yet in an economic desert, be it only a temporary one, a streak of rust may be all that the country can support. Contrariwise, it is equally clear that an investment disproportionately great, locking up capital unduly and consuming profits in excessive overhead charges, is equally wasteful. The Virginian Railway, the Western Pacific, and the Atlanta, Birmingham & Atlantic, all alike yielding inadequate present returns upon the cost, probably represent an investment disproportionate to present needs. The policy of building as cheaply as possible and of subsequently making improvements as the business grows, is probably safest in the long run.[1] The expediency of such a policy is suggestively discussed in a recent Supreme Court case[2] concerning the proper methods of accounting to be adopted under such circumstances. The decision, quite apart from its legal merits, commends the prevalent American practice as to the inter-relation of investment and prospective earning power.

A definite objection from a public point of view to the expedient of a construction company is that it so often gives a false sense of security to those who invest in the enterprise. In fact, it may be a purely financial device for the enticement of the unwary. The purchaser of railway bonds, even although, as is customary, those securities are only issued in payment

[1] *Cf. Railway Age Gazette*, vol. LIII, 1912, p. 474, on capitalization and traffic.

[2] *Kansas City So. v. U. S.*; 231 U. S., 423: p. 233, *infra*.

for the line as built, often fails to consider the chance that the road may fail of completion, therefore to a large degree undermining the value of its bonds. A railroad not put through to its ultimate destination is largely a worthless affair. Instead of reaching a seaport or an important terminal it simply runs up a tree. A recent case of heavy loss to English bondholders arose in connection with the Kansas City, Mexico & Orient road.[1] This was a proposition started in 1900 to build a line about 1,700 miles from Kansas City southwest to a seaport at the mouth of the Gulf of California. About $24,000,000 of bonds were marketed by the promoter, largely upon the faith of an agreement with the International Construction Company to complete the road in return for bonds and stock of the railway. Despite the fact that the construction company and its allies had a cash capital of $13,000,000 — supposed to constitute a sort of guarantee fund to insure the completion of the road — the enterprise collapsed in 1913 and the road was sold under foreclosure the following year. A large amount of new capital was necessary in order to render the first investment even partially profitable.

In the Wabash-Pittsburgh extension, also a recent affair, encouragement to would-be bondholders was given by what purported to be a traffic agreement between the connecting railroads concerned and the new terminals in Pittsburgh. This agreement was secured by a construction syndicate in advance of the offering of securities. It was represented as assuring the earning of interest upon large issues of bonds. The financial frailty of construction syndicates as a reliance in case of disaster has been too often a matter of record. There can be little doubt that without the apparent security afforded by such agreements with construction companies, the risk to the investor would have been more clear. No greater value obviously attaches to any such guarantee than the financial standing of the contracting party warrants. The truth of the

[1] P. 16, *supra*, footnote.

matter is that the railroad and the construction company are mutually dependent. Each relies for its profit upon the success of the other. If one fails, the other succumbs also.

Reviewing the experience with construction companies in the past, failure to complete the enterprise for the contract price is common. Usually in those cases of collusion between the officers of the railway and the construction company, the latter concern was by its contract relieved from liability to complete the road if unable to do so. The railroad, in other words, agreed to pay over its securities for as much line as was completed[1] regardless of the fact that the object had not been attained. The experience of John M. Forbes with the so-called River Roads, elsewhere cited in this chapter, was unfortunate in this way. The railroad was stripped of all its moneys and lands although the line was by no means finished. The North River Construction Company, which built the West Shore road, is another example of the worthlessness of the guarantee of such a concern to fulfil its contract, and thereby create any real earning power for the enterprise. The lack of publicity concerning the exact nature of the agreement between the two parties and as to the financial resources of the promoters, lies, of course, at the root of the difficulty; and yet, on the other hand, in cases of competitive building between rival roads, it is difficult to reconcile this need of publicity for investors with the secrecy demanded, perhaps, by the strategy of the situation. It is easier to criticise after the fact than it is actually to achieve. Some allowance must be made for extraordinary exigencies. But normally it is indubitable that an open and above-board financial policy, simple and direct, pays in the long run. Involved and circuitous methods breed distrust and invite corruption. Such is the lesson of our experience.

A most significant fact, as bearing upon the railway situation today, is the present unhappy plight of practically all of the

[1] Cleveland and Powell, p. 63, give several instances of such contracts.

roads financed recently by means of construction companies. The present-day instances, scattered through the preceding pages, have without exception been disastrous in their outcome. Practically all of the properties concerned are bankrupt and in the hands of receivers. The array is rather striking. The Moffatt road, piercing the Rockies west of Denver; the Kansas City, Mexico & Orient, affording the shortest outlet from Kansas City to the Pacific as well as the direct line from Chicago to the city of Mexico; the Atlanta, Birmingham & Atlantic, seeking to give better access to the Alabama steel and iron fields from the Atlantic seaboard; the Wabash extension to break the Pennsylvania Railroad monopoly of the rich Pittsburgh iron and steel district; the "Frisco" fiasco in the construction of feeders to its trunk lines throughout the Southwest; the Hampden Railroad in Massachusetts, providing an air-line connection between New York and Maine summer resorts; the New York, Westchester & Boston as the stem for a radiating system of suburban lines into the metropolitan district; every one of these enterprises undertaken within the last decade is in a state of financial collapse. By way of contrast, other great railroad enterprises not prosecuted by the aid of construction companies, have at least, if not yet on a paying basis, been carried through to completion. Being in operation they are economically serviceable to the communities concerned. In this category may be mentioned the St. Paul extension to the Pacific coast, the Western Pacific continuation of the Gould system as a transcontinental railroad, the San Pedro, Los Angeles & Salt Lake connection between southern California and Utah, not to mention the numerous feeders built by the other existing great systems; all of these have had a more happy issue out of their early difficulties. Is this record to be interpreted as necessarily an indictment of the construction company? Such a conclusion would seem to be unwarranted. Some of these enterprises, two at least, have failed because they were conceived

in iniquity and were fraudulently carried forward thereafter. In the case of the others, disregarding minor local circumstances, one common feature characterizes them all. They were independent railroads, seeking to invade or develop the territory of already strongly intrenched systems. They, therefore, all alike antagonized both powerful operating and banking interests. They were exposed not only to fierce competition for traffic, but suffered from the absence of specific banking support; if not even actually incurring acute hostility in raising funds. For a new railroad to invade Southern Pacific, Union Pacific or Pennsylvania territory or the districts already well occupied by the Southern and allied Morgan roads, is a serious matter in any event. The conclusion, already suggested by the course of other events, that the main lines of communication in the United States have now been pretty completely built, and that construction in future will consist principally of the extension and development of existing systems, is in the main confirmed.

Despite the foregoing rather depressing comment upon American construction methods, the magnitude of the achievement, as a whole, must constantly be kept in mind. To have opened up a continent to settlement within the short space of seventy years is an accomplishment unparalleled in history. The creation of the greatest railway net in the world, practically within two generations, in spite of all the obstacles opposed by nature and the limitation of capital resources, should be a matter for national pride. Such a result was attainable only by incurring great risks on the part of pioneers, promoters and capitalists. It is all too easy to look back upon the record and to call attention to the faults and shortcomings of those to whom this great achievement is due. Happily it is clear that for the most part the financial methods concerned were consistent with the highest standards of probity and good judgment. One's decision in individual cases depends upon whether the profits came from the legitimate upbuilding of the road and

its territory served, or whether they were made by unloading weak properties upon the world of unsuspecting and innocent investors. But wise legislation and sound practice in future require that mistakes of the past should be clearly understood in order that they may be guarded against in future. Moreover, it is beyond question that many railroads, honestly administered in this generation, have never fully outlived the excesses of a misspent youth.

CHAPTER II

CAPITAL AND CAPITALIZATION

THE definition of railway capital is a far simpler task than its actual determination; and yet even that is not altogether easy. Great confusion in analysis arises from the divergent points of view and opposing interests of the various parties concerned. Three angles of approach may be distinguished: that of the accountant, the practical financier and the economist or legislator. The mental attitude of the professional accountant may be dismissed in a few words. It is based upon technical requirements as to the keeping of books. The balance sheet sets forth in opposing columns the assets and liabilities of a corporation. Stocks and bonds, together with other outstanding short-time obligations, are enumerated as liabilities; on the ground that, inasmuch as funds have been contributed by investors in exchange for these securities, the corporation stands indebted to them for an equal amount. Thus placed on the balance sheet, the accountant's definition, quite naturally, is that capitalization "means the figure of permanent liabilities of a corporation, liabilities that are not intended for early redemption." [1] This conception of capital-

[1] W. M. Cole, Accounts, 1908, p. 165.

ization as a liability is confusing to the layman. However necessary for the keeping of accounts, it is too narrow for the purpose of economic analysis and may be set aside without further comment.

The practical financier defines capitalization "as the amount at which the property is carried on the books; that is, in the capital account. . . . Stated in another way, the book assets (or capitalization) of a corporation represent property. It may be said to include all of the assets." [1] In other words, to the financier capitalization is synonymous with the book entry of "property investment" on the balance sheet. Instead of being, as the accountant viewed it, a liability, capitalization goes in with assets. From this point of view there is no inquiry as to the real value of the property; that is to say, as to the capital in use. No definition of capital is, in fact, attempted; nor is any relativity between actual assets and outstanding securities contemplated or desired. No questions are asked as to how the property investment came into being. In too many cases, a veil of secrecy is thrown over the corporate records in this regard.[2] This fact is pertinent to our subsequent discussion, as it will develop.

The third point of view is that of the economist and, it may be added, of most legislators. The starting point is a clear definition of capital. Thus conceived, capital consists of the tangible assets, such as real estate, rails, locomotives and cars, and, in addition, all the attributes of a going concern known as good-will, including among other things profitable contracts, alliances and reputation. In brief, the capital of a corporation is its actual corporate estate. Cleveland's definition of capital is worth quoting. It consists of "those assets of the corporation which have been provided and which are intended for continuing, productive use." To the economist,

[1] Testimony of W. H. Williams, Jan. 18, 1911, before the U. S. Railroad Securities Commission, pamphlet; p. 4.

[2] *Cf.* Cleveland, Railroad Finance, p. 324.

as contrasted with the practical financier, the distinction between this capital and capitalization is clear and essential. The corporate estate is commercially represented by securities outstanding. It is the aggregate of this paper certification of value, taken at par, which constitutes capitalization.[1] These securities are the principal agencies by means of which money was raised to construct and operate the railway; but the property thus brought into being as capital remains forever thereafter entirely distinct from its capitalization, albeit linked in a causal relation thereto. Capital is a reality. Capitalization is merely a record of past operation and a bench mark or standard of measurement for the future. As both a record and a standard of value it deserves attentive consideration.

The significance of the line of cleavage between the financier and the economist now becomes clearer. To the financier capitalization is property investment — an asset; to the economist it is the mere face value of the securities outstanding — a liability or obligation. To the former the term capitalization applies to "all the actual capital realized from the sale of stocks and bonds,[2] regardless of the mode in which such capital has been procured." It may have been raised by the issuance of stocks or bonds above or below par. It may have been created out of surplus earnings. In either event the existing relation between capital and outstanding securities is upset. When stocks or bonds are sold at a premium, the increase in available resources (capital) is greater than the addition to outstanding securities. The same thing follows in the very common practice among American railroads of turning back

[1] Cleveland, Railroad Finance, nowhere actually defines capitalization. His substantial agreement with the above statement must be inferred from his definition of over-capitalization as "the amount by which the represented shares and capital liabilities of a corporation exceed the value of its capital assets."

[2] W. A. Wood, Modern Business Corporations, 1906, p. 31. It is tacitly assumed that the book value represents the facts; at all events book values, balancing the securities outstanding, afford the basis upon which financial operations are carried on.

surplus earnings into the property. The financier is content under such circumstances to let the fact pass unnoticed; unless perchance an unscrupulous management, as in the case of the Alton,[1] may seize upon the opportunity to abruptly capitalize this surplus for its personal enrichment. This ever-present danger impels the guardian of the public interest to demand that the distinction between actual resources and outstanding securities be kept at all times clear, as an element in the determination of reasonable rates. The relation, if there be any, between capitalization and rates must be reserved for subsequent discussion.[2] For the moment we must be content merely to point out the contrast in the point of view of what may be called the insider and the outsider. To the former it is often more convenient that the fact of surplus earnings stand forth not too prominently on the books. In other words, to the financier the par value of securities outstanding, that is to say, capital liabilities, in their relation to actual assets is of little or no importance. His attention is concentrated upon earning power. To the publicist, on the other hand, the terms capital and capitalization must be so used as in themselves to constitute a financial record, particularly as to the causal relation between securities sold and funds in hand. Securities outstanding, particularly bonds, redeemable at par regardless of the issue price, are not only present and actual, but potential liabilities. The relation between them and present assets is a vital one. Par value of outstanding securities is specifically termed capitalization in order to sharply distinguish it from capital in use, that is to say, property investment. And the preservation of a definite relation between the two is essential, as our subsequent treatment of stock-watering, it is hoped, will disclose. To permit capitalization to be manipulated without regard to actual capital is held to be against public policy, not necessarily because it constitutes a financial wrong, but because it does not make for intelligent publicity.

[1] P. 262, *infra*. [2] Chapter XI, *infra*.

The foregoing distinction in terms does not, of course, exclude the possibility that the capital and capitalization of a railroad are equal. They may often be so. The failure in commercial usage clearly to distinguish between these terms probably arises from this fact. The two are often used interchangeably, on the tacit assumption; first, that the real value of the property, judged by its earning power, is equal to the amount of its certificated worth on paper; and, secondly, that therefore in some way the asserted value is a realizable one in terms of cash. Usually in the case of going concerns, in normal times, these assumptions are more or less true, — the degree of approximation to truth being indicated by the deviation of the market price of the securities above or below par. Only in those instances where the assumption is absolutely true, that is to say when the securities are commercially worth their face value, can it be said that the capitalization and the capital are equal. In all other cases the value of the actual investment is more nearly represented by the aggregate market price of the securities; while the capitalization is a purely artificial total, arrived at by taking the amount of these securities at par instead of at the market price. Although purely artificial, it is difficult to disabuse the public of the impression that it represents a very real thing. It may or it may not, according to circumstances. But the rôle played by capitalization in connection with public regulation is an important one. It is often assumed that its regulation has to do with the limitation of dividends. This is not true. The distinction between capital and capitalization is, as has been already said, primarily a matter of intelligent publicity. Both the shareholders and the community have a right to know whether a railroad's assets are being kept intact, are being dissipated, or are appreciating in value as a result of its financial policy.[1]

[1] Williams, *op. cit.*, p. 5, acknowledges this danger in the statement that, under his terminology, the facts concerning property created out of surplus earnings "would not commonly be revealed by a superficial examination of the accounts."

The case of the St. Paul Puget Sound extension, outlined in the preceding chapter,[1] clearly illustrates the necessity of the distinction between capital and capitalization as used by the economists. Approximately $155,000,000 of capital was raised to finance this extension, — about an equal par value of bonds being issued for the purpose. Yet on the balance sheet of the company for 1911, the property investment is stated as $269,000,000. The discrepancy between the two is roughly accounted for by the existence of $100,000,000 of Puget Sound stock, issued to the parent (St. Paul) company for no cash consideration whatever. Yet, inasmuch as this stock, reposing in the treasury of the parent concern, pays dividends sufficient to warrant a face valuation of $100,000,000, this figure is arbitrarily assigned it as an asset. It was in fact so valued before the road began to operate at all. In other words, $100,000,000 of Puget Sound stock outstanding on the liability side had to be balanced by an equal addition on the opposite page of assets. This action, it was claimed, was taken in order to conform to the law of Washington which forbade the issue of bonds above twice the amount of the capital stock. The financier maintains that the cardinal point, known to the public, is the earning power of the new railroad. But the economist demands that the additional fact should appear on the books that capitalization, the basis of dividend disbursements, exceeds the capital by approximately $100,000,000. This could readily enough have been done by a statement of deferred assets on the Puget Sound balance sheet, showing discount on securities sold of $99,999,000. For, in any event, as the Interstate Commerce Commission says in condemning the accounts,[2] "even if the laws of the state of Washington compelled it to issue a large amount of stock representing no investment in order to legalize its issue of bonds, there was no necessity for including the par value of that stock in its property

[1] P. 37, *supra*.
[2] 29 I. C. C. Rep., 514. *Railway Age Gazette*, vol. LVI, p. 499.

investment account." Physical valuation, now under way, finds its application at this point, not only for the St. Paul but for the entire railway net of the United States. It is quite possible that the St. Paul extension might not have been built so soon without the likelihood of a sufficiently liberal return to pay the going rate of interest on enough bonds to create the property, together with substantial dividends upon $100,000,000 of capital stock issued for no cash consideration whatever. But that is another question. The point to carry forward is that a transparent record of all the facts in the case is a prerequisite to the determination of what constitutes a fair rate of return upon the investment, — the term "fair" implying, of course, that the return shall be sufficiently ample to assure an adequate forthcoming supply of capital for further development throughout future years.[1]

The primary division of railway securities is into the two groups, respectively, of capital stock and evidences of indebtedness. The distinction between these two is fundamental. The shareholders, represented by the capital stock, are the owners of the property, charged with the responsibility of its administration, for good or ill. The holders of its evidences of indebtedness, on the other hand, be these bonds or promissory notes, are merely creditors of the enterprise. At first sight it would thus appear as if only the stock of a railway constituted its capital, while its bonds or promissory notes were of the nature of charges thereon. But in practice this is not so. For, although bonds in form represent a mortgage, yet their issue and sale were probably the means of collecting the funds necessary to create the property against which the mortgage lies. In the two most recently built transcontinental railways, for example, the Chicago, Milwaukee & St. Paul extension and the Western Pacific, practically all the funds were raised by the

[1] Chapter X, *infra*.

issue of bonds, taken by the parent or allied lines.[1] These facts are well recognized in English financial parlance, which designates the two groups as share and loan capital, respectively, as a result of these circumstances. The stock of few corporations stands for the entire investment. It seldom measures the full value of the property. Oftentimes it represents, as has been shown, no part of it at all. For the full value of that property one must take account of both share capital and bonded debt.

Not all of the indebtedness, however, can be held to have been incidental to the creation of the property. Some of it may have been incurred in connection with its current operation. This distinction usually appears in the differentiation of funded indebtedness from current liabilities. Funded indebtedness represents long-time investment by creditors, while the other forms are merely incidental to its recent conduct. No separation in this regard appears in the official Statistics of Railways of the United States prior to 1896, which up to that time indiscriminately included all current liabilities, such as bills payable, audited vouchers, and wages and salaries due, on the ground that, although being circulating as distinct from fixed capital, they nevertheless represented actual investment in the enterprise. But since 1896, at the instance of the American Association of Railway Accounting Officers, these latter forms of indebtedness have been separately classified. How considerable an item these current liabilities may be, appears from the fact that in 1912 they amounted to approximately $5,800 per mile of line for the whole United States. Still another modification of the official data appears in the Statistics of Railways for 1908, in the reinclusion of short-term railway notes in capital. In 1896 they had been deducted from it as being one form of current obligations. These notes, as will appear later, have been much resorted to since 1905. They

[1] Although the parent company raised the funds in first instance by sale of its own stock to shareholders, as we have just seen.

originally stood for unsecured indebtedness; but in these later years, being incurred in order to raise funds for improvements, are properly treated as railway capital. The revised official statement in 1908 permits the separation of mortgage and collateral trust bonds, of plain bonds, debentures and notes, of income bonds, equipment trust obligations and miscellaneous obligations. All of these are included in capital under the head of funded debt.[1]

There still remains the most important consideration of all in the determination of railway capital. A clear distinction between gross and net capitalization is always necessary. The absence of this practically vitiates all of the Federal as well as other private data concerning railway capital between 1899 and 1907. Prior to this time the practice of inter-investment of railways was not common. Methods of financing were simple and direct. Most railways were merely operating common carriers. The overwhelming majority of stock and bond issues were based upon the real property or earning power of the issuing company by itself. Therefore the figures given by Poor's Manual of Railroads and the United States Statistics of Railways were approximately correct. The principal exceptions were the Pennsylvania and Southern Pacific companies, and some of the anthracite roads, notably the Philadelphia & Reading and the Erie. These latter companies had extensive reserves of coal lands, purchased through the sale of bonds. Obviously such bonds were not a part of their railway capital as such, and inordinately swelled the volume of capital apparently devoted to transportation. But soon after the resumption of prosperity in 1898, largely as a result of consolidation into large systems, railway companies began on a large scale to acquire securities of other roads either for investment or control, and oftentimes to raise funds therefor by the issue of their own stocks or bonds.[2] Such collateral trust bonds or securities, based upon the deposit of other stocks or bonds,

430, *infra*.

were, of course, merely duplications of existing issues, unless used as a means of inflation otherwise. Hence the amount of "securities owned" should have been deducted from the gross capitalization in order to obtain the net amount of capital to be supported by operating income. From 1898 to 1907 such duplication of securities issued, progressively falsified the returns as to capital, obtained by totalizing all issues of stocks and bonds by railway companies. Nor did the distinction between "capital in the hands of the public" and "owned by other railways" in the Federal statistics enable the net capital to be accurately ascertained. The railways of the United States thus held not less than $12,100 out of a total of $65,926 per mile of line in 1905. This apparently left a balance of about $54,000 capital outstanding per mile of line "in the hands of the public." This form of statement roughly sufficed for the returns made by each system as to its own finances. But obviously it was often impossible for any company to ascertain what portion of its securities, openly issued to the public, had ultimately found a lodgment in the treasury of other companies outside its own system. Hence even these data were open to grave objection.

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issue of bonds, taken by the parent or allied lines.[1] These facts are well recognized in English financial parlance, which designates the two groups as share and loan capital, respectively, as a result of these circumstances. The stock of few corporations stands for the entire investment. It seldom measures the full value of the property. Oftentimes it represents, as has been shown, no part of it at all. For the full value of that property one must take account of both share capital and bonded debt.

Not all of the indebtedness, however, can be held to have been incidental to the creation of the property. Some of it may have been incurred in connection with its current operation. This distinction usually appears in the differentiation of funded indebtedness from current liabilities. Funded indebtedness represents long-time investment by creditors, while the other forms are merely incidental to its recent conduct. No separation in this regard appears in the official Statistics of Railways of the United States prior to 1896, which up to that time indiscriminately included all current liabilities, such as bills payable, audited vouchers, and wages and salaries due, on the ground that, although being circulating as distinct from fixed capital, they nevertheless represented actual investment in the enterprise. But since 1896, at the instance of the American Association of Railway Accounting Officers, these latter forms of indebtedness have been separately classified. How considerable an item these current liabilities may be, appears from the fact that in 1912 they amounted to approximately $5,800 per mile of line for the whole United States. Still another modification of the official data appears in the Statistics of Railways for 1908, in the reinclusion of short-term railway notes in capital. In 1896 they had been deducted from it as being one form of current obligations. These notes, as will appear later, have been much resorted to since 1905. They

[1] Although the parent company raised the funds in first instance by sale of its own stock to shareholders, as we have just seen.

originally stood for unsecured indebtedness; but in these later years, being incurred in order to raise funds for improvements, are properly treated as railway capital. The revised official statement in 1908 permits the separation of mortgage and collateral trust bonds, of plain bonds, debentures and notes, of income bonds, equipment trust obligations and miscellaneous obligations. All of these are included in capital under the head of funded debt.[1]

There still remains the most important consideration of all in the determination of railway capital. A clear distinction between gross and net capitalization is always necessary. The absence of this practically vitiates all of the Federal as well as other private data concerning railway capital between 1899 and 1907. Prior to this time the practice of inter-investment of railways was not common. Methods of financing were simple and direct. Most railways were merely operating common carriers. The overwhelming majority of stock and bond issues were based upon the real property or earning power of the issuing company by itself. Therefore the figures given by Poor's Manual of Railroads and the United States Statistics of Railways were approximately correct. The principal exceptions were the Pennsylvania and Southern Pacific companies, and some of the anthracite roads, notably the Philadelphia & Reading and the Erie. These latter companies had extensive reserves of coal lands, purchased through the sale of bonds. Obviously such bonds were not a part of their railway capital as such, and inordinately swelled the volume of capital apparently devoted to transportation. But soon after the resumption of prosperity in 1898, largely as a result of consolidation into large systems, railway companies began on a large scale to acquire securities of other roads either for investment or control, and oftentimes to raise funds therefor by the issue of their own stocks or bonds.[2] Such collateral trust bonds or securities, based upon the deposit of other stocks or bonds,

[1] P. 139, *infra*. [2] Pp. 143 and 430, *infra*.

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related movement of capital and capitalization was given. During this period $69,700,000 was realized from the issue of $69,400,000 of securities at par. Capital expenditures of $57,000,000 were made out of funds arising from an increased capitalization of $51,000,000. Full data were given concerning the premiums and discounts on all these dealings, including not only purchases and sales but retirements. Such voluntary publicity is highly encouraging.

The first step in an analysis is to eliminate all duplication, by subtracting from the total of outstanding securities of all companies within a given system the amount of such issues which are held within the group. In 1901 the Reading Company acquired $14,500,000 par value of the capital stock of the Central Railroad of New Jersey, paying $160 per share for this majority holding. The Reading Company then raised the necessary funds by issuing its new collateral trust bonds, based upon the deposit of this stock. Obviously the value of this investment should be deducted from the total capitalization of the system, which included the Jersey Central lines; as otherwise the purchased stock and the Reading bonds based upon it, added together, would create a fictitious total.

The necessity of considering the foregoing complications may be emphasized by a few more concrete instances of the magnitude of inter-railway investments. The gross capitalization of the Pennsylvania Railroad in 1906 was about $110,000 per mile; but of this sum about $60,000 stood for security holdings, leaving a net capitalization of only about $50,000 for a system of largely two and often four tracks. In a similar way the apparently heavy capitalization of $95,000 per mile of the New York Central shrank to less than $60,000 when allowance was made for investments equal to nearly $40,000 per mile. The most conspicuous example of this kind is, of course, the Union Pacific Company. Practically one-quarter of its net income in 1906 was derived from investments,—enough, in fact, to permit payment of its fixed charges and the cus-

tomary 4 per cent. dividend on the preferred stock without moving a ton of freight or carrying a passenger.[1] Without approving in the least of the dangerous financing by which this result was obtained, one must nevertheless concede that its reported gross capitalization of $133,000 per mile of line in 1905 needed substantial correction before comparisons were made with other roads not engaged in a general banking and brokerage business. In four years prior to 1907, according to testimony before a Massachusetts legislative committee, not less than $157,000,000 in capital had been raised by the New Haven road through sale of securities, of which $103,000,000 had been expended for investments in other companies and $10,000,000 for real estate for terminal purposes. Distribute this sum over the line mileage of the company and a deduction of a large amount from its gross capitalization would be the result.

The fair market value of investments by one road in other companies, rather than merely the par value, ought properly, of course, to be the basis of all calculations of net capitalization. In the case of the Reading company, it paid $160 per share for its holdings. This would make the actual cost of $14,500,000 par value equal to $23,200,000. The market price of this stock was at one time nearer $300 per share. On the other hand, the Illinois Central held all of the capital stock and all but $96,000 of the $49,111,000 bonds of the Yazoo & Mississippi Valley. Whatever they may have cost the parent company, the fact that this subsidiary road for years failed to earn its fixed charges by a large sum certainly would cause calculations based upon par value for its investments to deviate widely from recognized fact. Unfortunately, however, it is practically impossible to take account of such market prices in any general investigation. Aside from the mere labor involved, it is often impossible to ascertain the market value of inactive securities, some of which may have reposed in safe deposit boxes for many years; some perhaps, such as the capital

[1] *Quarterly Journal of Economics*, vol. XXI, 1907, p. 672. Chap. XV, *infra.*

stocks of the new transcontinental lines, have never had a public quotation. One must be content to inventory such holdings within a system at par. This may do injustice at times; but, on the whole, it seems probable that plus and minus errors will largely balance. Eastern roads will be generally prejudiced by basing conclusions upon par values; while roads in the West and South will be benefited by it. Par values, at all events, are the best one can find, and must suffice for general purposes. After the present Federal valuation is completed, one may proceed more confidently to seek results in detail. This present inquiry is attempted merely to outline sound methods of analysis. The concrete figures are of little consequence.

Having allowed for duplication of capital within a given system, it is then necessary to reckon with outside investments.[1] These may consist of holdings of stocks and bonds in other railway systems, or they may represent investment in other enterprises than transportation. As for the first of these,—investments in other railways outside its own system,—these are somewhat imperfectly given by the Report on Intercorporate Relations. The amount of what are designated as "Minority Holdings" of railways in other roads, however, in all probability gives returns sufficiently accurate for our general purposes. They include all of the investments of this kind which are substantial in amount. Majority holdings in other companies would bring those roads "within the system," as just described; and would appear in the tables under that heading. As for the miscellaneous investments, their scope is surprisingly wide. It is clear that the value of all these investments must also be subtracted from the total of securities outstanding for each system, in order to leave only the net capitalization dependent upon earnings from operation for its support. The table on

[1] U. S. Statistics of Railways, 1911, p. 34, shows how difficult this matter is to handle statistically. But our text is theoretically sound as to reasoning. Some day it may be verifiable statistically. *Cf. idem*, 1913, p. 30.

CAPITALIZATION, JUNE 30, 1906

System	Mileage[1]	Total outstanding	Holdings within system	Minority holdings in other systems	Misc. investments (approx.)	Jointly held (approx.)	Net capitalization per mile
United States	**216,804**	**$18,227,196,000**	**$5,075,702,000**	**$479,510,000**[2]	**$460,302,000**	....	**$ 58,050**
C., M. & St. Paul	7,244	251,131,000	13,899,000	....	1,116,000	12,800,000	30,800
Chicago & Northwestern	7,631	291,304,000	25,673,000	18,800,000	2,661,000	7,000,000	31,000
Missouri Pacific	6,885	514,872,000	169,597,000	37,155,000	8,658,000	67,000,000	33,700
Illinois Central	5,700	481,689,000	162,036,000	......	2,000,000	93,000,000	39,400
Seaboard Air Line	2,878	217,291,000	73,067,000	123,000	861,000	26,000,000	40,700
Southern Railway	9,176	779,393,000	137,976,000	6,969,000	2,150,000	196,000,000	47,500
Chicago, Rock Island & Pac.	14,504	1,510,310,000	636,172,000	580,000	15,285,000	133,700,000	50,000
Atchison, Topeka & Santa Fé	9,442	809,700,000	308,200,000	....	14,800,000	9,000,000	50,600
Boston & Maine	3,340	212,759,000	26,084,000	33,000	700,000	1,000,000	55,000
Great Northern	6,097	484,738,000	118,343,000	490,000	13,776,000	......	57,600
Southern Pacific	9,733	1,092,597,000	458,909,000	....	55,095,000	8,500,000	58,600
Union Pacific	7,665	937,006,000	264,051,000	136,789,000	30,590,000	8,900,000	64,800
Northern Pacific	6,549	509,422,000	44,206,000	....	18,500,000	20,000,000	65,000
Denver & Rio Grande	2,782	348,408,000	87,871,000	....	7,440,000	242,000,000	82,000
New York Central	8,730	1,068,173,000	215,232,000	61,705,000	16,500,000	36,600,000	84,500
Pennsylvania	10,045	1,674,416,000	437,195,000	126,472,000	76,806,000	163,600,000	86,400
Norfolk & Western	1,886	185,662,000	17,165,000	24,900	1,754,000	......	88,000
Great Western	1,410	188,374,000	54,592,000	....	800,000	6,300,000	90,000
Wabash	2,609	315,550,000	54,900,000	....	19,100,000	105,000,000	92,500
New Haven	2,755	436,559,000	118,007,000	57,250	37,400,000	15,000,000	96,600
Baltimore & Ohio	4,600	865,847,000	294,062,000	31,486,000	7,400,000	42,700,000	106,000
D., L. & W.	1,034	134,915,000	11,981,000	1,851,000	4,569,000	6,800,000	115,000
Reading	2,288	531,522,000	115,791,000	2,686,000	25,500,000	4,500,000	169,000
Erie	2,373	565,706,000	109,427,000	3,006,000	9,101,000	43,600,000	169,000

[1] Owned, less jointly held.

[2] Holdings, outside the system.

page 75 has been thus constructed for a number of important railways, finally reducing this net capitalization in each case to a mileage basis for purposes of comparison. These roads are arranged in an ascending scale with reference to this last figure — net capitalization per mile — which is the basis for all subsequent calculations.[1]

Turning back to our table of figures, the most surprising feature is the wide range of capitalization, from $30,800 per mile of line for the St. Paul to nearly six times that figure in the case of the Erie Railroad. Nor is any broad classification of systems possible. The granger roads and those of the less densely populated regions seem to be in a general way relatively low in capitalization; while the great trunk lines and the coal roads are heavily laden with stocks and bonds. Yet exceptions are almost as frequent as normal instances. The prime fact is that before any definite financial conclusions as to the relative burden of capitalization of individual properties are permissible, a number of important considerations must be taken into account. Most of these are purely technical and involve detailed information as to physical facts. In the first place, the above figures are based upon miles of line and not upon miles of track. Systems like the Pennsylvania, largely double tracked and in part four tracked, cannot fairly be compared with single-track lines. This company recently reported 4,877 miles of extra and siding track in addition to its 3,679 miles of first track. Here is a possible error in comparisons of over 100 per cent., unless the additional cost of such trackage be added to that of "roadway" or of "main line." Careful allowance for such differences should always be made. The physiography of the country must be known. The low capitalization of the Northwestern, St. Paul or Atchison systems, built across open plains, by comparison with the Union Pacific or

[1] The difficulty of jointly held properties is treated in Appendix I, *infra;* as also on p. 429, *infra.*

the Denver and Rio Grande, constructed through the Rocky Mountains, is partly accounted for on that ground. No comparison of capitalization is fair until the density of population is known. This has compelled enormous expenditures for abolition of grade crossings in the eastern states, an expense not imposed upon roads in the West and South. Nor is a comparison of capitalization of two roads in the same region fair until expenditures for this purpose are known. The New Haven has abolished nearly all its grade crossings. The Boston & Maine still has thousands of highways unguarded. Entirely apart from the relative proportions of duplicate trackage, always in favor of the New Haven road, this difference deserves consideration. Furthermore the value of terminals must be distributed over the whole line. Roads like the Pennsylvania, New York Central, Northwestern or Illinois Central, with enormous holdings of real estate in the primary centres of population, are in a class by themselves. Railways either tapping no very large cities, or, if so, relying upon rented property or trackage rights, lack one of the principal bases for a heavy capitalization.

Yet further allowance must be made before drawing final conclusions as to capitalization. It makes a great difference as to the age of the property and the conditions under which it was promoted and built. All the pioneer roads had to sell bonds at heavy discount in order to secure funds.[1] These debts maturing at par, the charge for discount on bonds may have been a heavy item of initial cost. The Western Pacific, financed during the panic of 1907, did not realize, it was alleged, over $40,000,000 in cash from the sale of $50,000,000 of bonds at par. Here is an expense of $10,000,000 to be charged to cost of construction. On the other hand, the Pacific coast extension of the St. Paul system was financed by sale of its own stock to its own shareholders at par. The only additional cost was the interest on the investment during the period of construction,

[1] P. 277, *infra*.

before earnings began to come in. The only offset for these heavy expenses of pioneer roads is the fact that they are not only seasoned properties, but enjoy all the advantages of appreciation of real estate values incident to the growth of the country. Surely the land grant roads have received full compensation from this source for the heavy expenses of financing in the early days.

It is equally important to consider the structure of the system. The Chicago Great Western is nearly all main line, such as it is. Its capitalization figures are not reduced by much lightly built branch mileage, as is the case with the Southern system. The Louisville & Nashville and the Queen & Crescent Route both serve the same territory in large measure; yet the former has an intricate net-work of branches on its trunk, while the latter is a single direct through line, with almost no feeders. The Missouri, Kansas & Texas and the Kansas City Southern are keen competitors throughout. The former with its many feeders, lightly capitalized, should for this reason average much lower than the latter, which is all main stem. Or again one system may be held together by leases, while another actually owns its roads in fee simple. This feature undoubtedly helps to explain the high capitalization of the New Haven system, by comparison with its neighbor, the Boston & Maine. And then finally, of course, full details are needed as to the relative worth of the rolling stock. Many thousands of dollars per mile of line, more or less, may profitably be invested in this way without seemingly affecting operation. The real difference between two systems will appear only when the items of expenditure for rental of equipment or interest on car trust securities are compared.

The foregoing comments upon the intricacies of railway finance suffice to show why new modes of calculation of net capitalization are imperatively demanded. The customary method among bankers of figuring mileage capitalization is to divide the sum of stock and funded debt issued by the miles of

line. Such a calculation considers the finances only of the parent company. It was suitable to old-fashioned, simple railroad organization. But in a complicated group of owned, leased and controlled roads it fails to give a true representation of the state of affairs. Nor are the figures for one road in any wise fairly comparable with those of another, differently organized financially. How greatly different this present mode of determining capitalization may be from the one customarily employed may be illustrated by the case of the Boston & Maine Railroad Company. Its nominal capital stock and funded debt, as of June 30, 1906, amounted to $60,280,000 or $26,000 per mile for 2,287 miles of line operated directly. Our figure for the entire group with a mileage of 3,369 in the Boston & Maine system was $55,000 per mile of line. This wide difference of upward of 100 per cent. is due to the fact that our calculation comprehends the capitalization of each separate unit in the system, such as the Boston & Lowell, capitalized at $40,000, the Maine Central at $42,000 and the Fitchburg Railroad, capitalized at $105,000 per mile. From a purely private point of view, — the aspect of the investor in shares of the parent Boston & Maine company, — the capitalization of $26,000 per mile is the basis of all calculations; inasmuch as the larger part of the system is held together by guaranteed rentals. The capitalization of the present company is based upon the surplus earnings of these lines above their fixed rents. From the standpoint of the public, which bears the aggregate burden of the rates, the figure of $55,000 is the significant one. The Boston & Maine in its individual capitalization as a parent company has provided for only 51 per cent. of the capital stock of the Maine Central, this being the proportion which it owns. But the shipping and travelling public are concerned with the entire capitalization of both the parent and subsidiary lines, allowance for duplication being properly made. Yet our method of calculation does not always enhance capitalization, as in the preceding instance. Sometimes it may actually reduce

it. This is true of the Northwestern system. This new mode of computation reduces its average capitalization by about $3,500 per mile. There can be no doubt, however, that substantially different results follow from this mode of computation; and it is believed that these results, if compiled with great care for each company, especially if market price for securities instead of par could be used, would be entitled to greater weight for all purposes of comparison of road with road, or in connection with the discussion of over-capitalization or rate regulation, than those currently quoted.

The next step in our analysis is to compare earning power with true capitalization, assuming for purposes of argument that our statistics are correct. A comparative exhibit of this sort is afforded by the opposite set of figures. The mileage in each system is approximately the same as in the preceding table of net capitalization, from which, in fact, the results as to capitalization are brought forward. This purports to be no more than a rough calculation, for the technical difficulties of exact comparison are very great. The results are, of course, as of June 30, 1906, that being the date of the official statistics used in computing capitalization. Many important changes in railway grouping have since occurred, such, for example, as the readjustment of railway investments in the anthracite roads, the development of later Union Pacific and New Haven finance, the reorganizations of 1907 and the dismemberments after 1912. Moreover, even for the given date, it is extremely difficult to compute results for the systems exactly as classified in the official Federal report used for computing net capitalization. Many roads within a system, held together by ownership of a bare majority of stock, report financial results separately. It has been necessary to piece these together. But the larger units have alone been taken into account.

An attempt has, however, been made to piece together a sufficiently large proportion of each "system" to render the

Systems June 30, 1906	Mileage	Net capitalization	Gross earnings from operation	Net earnings from operation	Charges, taxes and guaranteed rentals	Ton miles freight traffic (density)	Earnings per train mile	Net earnings to net capitalization per cent.	Charge etc., to net earnings per cent.
St. Paul	6,961	$30,800	$8,000	$2,760	$850	670,000	$2.42	8.9	30.4
Northwestern	7,453	31,000	8,500	2,860	860	1,094,000	2.32	9.2	30
Mo. Pacific	6,275	33,700	7,100	2,270	1,830	740,000	2.32	6.7	80
Illinois Central	5,698	39,400	10,580	3,530	1,620	(1,408,000)	(1.96)	9	46
Seaboard	2,611	40,700	6,050	1,630	1,200	368,000	2.17	4	73
Southern	7,515	47,500	7,274	1,840	1,510	527,000	1.90	3.8	82
Rock Island	14,200	50,000	7,380	2,500	1,860	600,000	(2.28)	5	74
Atchison	8,433	50,600	9,370	3,360	1,260	693,000	2.87	6.6	37
Boston & Maine	3,241	55,000	14,600	3,820	3,070	......	(1.85)	6.9	80
Great Northern	5,196	57,600	8,900	4,100	1,770	835,000	4.25	7.1	43
Southern Pacific	9,459	58,600	11,800	....	....	784,000	3.29		
Union Pacific	6,422	64,800	11,200	6,500	1,400	(1,203,000)	(3.84)	10	21
Northern Pacific	6,223	65,000	9,830	4,800	1,150	971,000	3.09	7.4	24
D. & R. G.	2,477	82,000	7,900	3,170	....	435,000	2.85	3.8	
N. Y. Central	8,221	84,500	22,700	5,550	3,500	(2,545,000)	(2.45)	6.5	63
Pennsylvania	10,754	86,400	22,000	7,200	3,050	(4,742,000)	(3.14)	8.3	42
Norfolk & Western	1,853	88,000	15,300	5,300	1,800	2,704,000	....	6.0	34
Great Western	1,475	90,000	7,500	2,500	1,200	1,065,000	....	2.8	48
Wabash	2,517	92,500	10,000	3,240	3,040	1,180,000	1.59	3.5	93
New Haven	2,603	96,600	23,100	8,400	4,000	990,000	3.40	8.7	47
Baltimore & Ohio	4,029	106,000	19,200	7,700	3,300	2,660,000	2.35	7.2	43
D., L. & W.	957	115,000	34,400	17,700	11,600	1,568,000	....	15.4	65
Reading	2,126	169,000	19,000	7,000	4,500	1,587,000	2.30	4.1	64
Erie	2,150	169,000	22,060	6,680	5,250	2,764,000	2.71	3.9	78
United States	**216,804**	**58,050**	**10,300**	**3,500**	**1,750**	**982,000**	**2.07**	**6**	**50**

returns fairly representative. Thus by combining the operating returns for the Pennsylvania Railroad, the Pennsylvania Company, the Philadelphia, Wilmington & Baltimore, the West Jersey & Sea Shore, the Northern Central and the Long Island railways, a sufficient proportion of all the Pennsylvania system's mileage is comprehended to permit grafting the results upon the figures of net capitalization derived from the preceding table. Equally difficult is it to secure entire uniformity because of the different forms of accounting employed. Most of these figures have been taken from the Manual of Statistics for 1907, supplemented by examination of individual reports. The greatest ambiguity is in the treatment of fixed charges. The practice respecting sinking funds is quite varied. The Northwestern regularly credits its income from "Omaha" stock against fixed charges, thus reducing them substantially. In this table taxes are included with fixed charges for purposes of comparison. Nor has it always been possible to treat rentals uniformly; but in the main it would appear that guaranteed rentals like those on the Boston & Maine system are included with fixed charges; while rentals contingent upon earnings, as in the Pennsylvania group, are excluded from the statement of fixed charges, as given. It should also be noted that these figures for earnings are those reported for parent companies. They are not compiled, as were the data concerning capitalization, by aggregating the precise returns for each separate corporate unit. Jointly-held terminal companies are seldom included in statements of the great systems. Undisclosed profits or losses may readily disappear in intercorporate accounting within each system. It has recently been charged that the Illinois Central has not made clear its obligations assumed in the guarantee of bonds of the Yazoo & Mississippi Valley road. It is probable, however, that general balances are heavily on the profit side; in other words, that more surplus earnings are left undivided than losses are concealed. As for the figures of traffic density, weighted averages of the component parts of each system have

been computed when not reported for the system as a whole. The principal exceptions are the Pennsylvania, New York Central and Union Pacific, where only parent company results are given.

In comparing net earnings with capitalization, how does one know that the properties are being uniformly maintained out of expenditures for operation? May not some be deteriorating through postponement of proper maintenance, while others are being steadily improved by a liberal policy in this regard?[1] A case in point is the experience of the Chicago & Alton under Hawley management. This road initiated 4 per cent. dividends in 1907, showing them, however, as barely earned. In the succeeding two years, expenditures for maintenance of way dropped from $3,120 per mile of line to $2,494 in 1909. Had not the road been thus "skinned," as it appears, the dividends would have been far from earned. The property had not recovered from the recent Harriman piratical raid sufficiently to render such tactics safe. Yet a bald comparison of expenditures for maintenance of way and equipment per mile of line would be unfair. The need for such outlay varies more or less in proportion to the load of utilization.[2] Maintenance, if compared, should be given in terms of density of traffic. Thus in 1907 the Union Pacific expended $3,175 per mile of line for maintenance of way; the Northwestern expended only $2,333. But the density of traffic of the Union Pacific road was 60 per cent. greater. Maintenance of way expenditure in terms of 100,000 ton-miles of freight density were only $268 for the Union Pacific, against $324 for the Northwestern, per mile of line. Despite appearances, due regard being paid to density of traffic, the Northwestern was pursuing the more conservative policy of the two.

[1] *Cf.* pp. 236 and 262 *infra.* Also *Quarterly Journal of Economics*, vol. XXVIII, 1914, p. 637.

[2] *Cf.* Railroads: Rates and Regulation, p. 65.

EXPENDITURES PER MILE OF LINE, 1912

	Maintenance of way, etc.	Maintenance of equipment
St. Paul	$1,173	$1,289
Northwestern	1,192	1,218
Mo. Pacific	1,198	1,151
Illinois Central	1,615	2,909
Seaboard	1,094	1,050
Southern	1,106	1,426
Rock Island	1,057	1,033
Atchison	1,513	1,554
Boston & Maine	2,595	2,857
Great Northern	1,251	1,066
Southern Pacific	1,451	1,637
Northern Pacific	1,305	1,196
D. & R. G.	1,255	1,696
N. Y. Central	3,879	5,392
Pennsylvania	5,437	9,298
Norfolk & Western	2,396	3,819
Chicago Great Western	997	1,310
Wabash	1,547	2,113
New Haven	3,265	3,846
Baltimore & Ohio	2,551	3,738
D., L. & W.	4,717	6,222
Reading	4,100	8,186
Erie	2,626	4,257

The mode of analysis directed above to the determination of standards of maintenance of way, may be applied by modification of detail to maintenance of equipment. But the standard of service in this case, naturally, becomes the train, car or engine mileage, according to circumstances. As illustrating the wide range of expenditure for these purposes by the roads included in our foregoing tables, the preceding figures for 1912 are significant. A superficial view may be had by the comparison of similarly circumstanced properties. But even then the true explanation for differences may call for further investigation.[1]

[1] Data concerning density of traffic for 1906 will be found in the table on page 75. But train, car and engine performance is the true standard.

Why should the Pennsylvania, for example, in 1912 spend something like twice as much per mile of line for maintenance of equipment as the New York Central? And Southern Pacific spent 50 per cent. more than the Great Northern per mile of line for the same purpose. Even the then-degenerate "Frisco" expended almost as much as the latter, judged by this rough standard. It is certain, if the comparison were made, not on the basis of mileage but according to the performance of equipment, that the true relation would be disclosed. And yet such comparisons per mile of line, valid enough for judging maintenance of way expenditures, are oftentimes most unscientifically and indiscriminately applied in stock market analyses. The need of rigid methods of analysis is indeed at times great.

The principal conclusion supported by our table on page 75 is that, as a rule, the net return upon the net capitalization of all American railways as a unit, after settlement of fixed charges, is far from excessive.[1] From an average of 6 per cent. for the United States, this balance for interest and dividends ranges from less than 3 per cent. on the Chicago Great Western to 10 per cent. on the Union Pacific. The D., L. & W., with net earnings of 15 per cent., is abnormal, as already noted. Of course, the actual rate of return on the capital stock of parent companies is higher than this, they being the residuary legatees of profits after interest on bonds and subsidiary companies are cared for. But even with this allowance the rate appears not to be excessive, as inspection of the last column demonstrates. For comparison the returns from other countries are as follows:[2]

[1] *Cf.* also data as to physical valuation, chapter XI *infra.* How much more pronounced this would be if based upon data for 1912–'14! But our aim is to elucidate relationships, not to ascertain statistical facts.

[2] Bull. 24, Bureau Railway Economics, 1911.

1909	Capitalization per mile of line	Net op. rev. per mile of line	Per cent. net earnings to capitalization
United Kingdom	274,700	8,302	3.
France (6 Co's)	141,300	5,641	4.2
Prussia-Hesse	110,700	6,529	5.88
United States	59,259	3,505	5.9

This low rate of return for American railways, as a whole, being expressive of a ratio between two variables, may be due to either one of two facts. Either the earnings are unduly low, or the capitalization is too high. As to the second assumption, whatever may have been true of conditions a generation ago, it certainly does not appear that at present the capitalization is unduly high, as measured in terms of cost or physical value. And this comparison with leading European states appears to support this view, when our railway net is considered as a whole. For our capitalization per mile of line is distinctly the smallest in the list. But, on the other hand, when we take the average for the United States and line up individual companies alongside it, the ill effects of excessive capitalization in specific instances at once appear. This comparison may, perhaps, best be made by putting our railway systems into typical groups, ranging in order from what may be termed financially conservative systems to unwisely ordered ones. At this point, however, it should carefully be noted that these comparisons should not always be regarded as indictments of existing managements. Nowhere than in the field of corporate finance is it clearer that the evil men do, lives after them. The flagitious past of some of these companies, like the Erie under Jim Fisk and Jay Gould, or the Chicago & Alton as reorganized by the late Mr. Harriman, must be held accountable for their present financial hardships in a large measure. The difficult task of rescuing these properties from their slough of over-

capitalization requires talent of a high order coupled with infinite patience.

Reasonable capitalization, from one point of view, being entirely a matter of relativity between two variables, it makes little difference whether low capitalization and modest earnings or high capitalization and rich returns be coupled up. But in either case it is imperative that the burden of fixed charges be low in order that the balance may be satisfactory. The first two groups of properties, therefore, at the head of the list of conservatively financed roads are both characterized

CONSERVATIVELY FINANCED ROADS

	Capitalization per mile	Per cent. net to capitalization	Per cent. fixed charges to net earnings
CLASS I. — Group A:			
Northwestern	$31,000	9.2	30
St. Paul	30,800	8.9	30.4
Illinois Central	39,400	9	46
Atchison	50,600	6.6	37
Group B:			
Great Northern	$57,600	7.1	43
Union Pacific	64,800	10	21
Northern Pacific	65,000	7.4	24
Norfolk & Western	88,000	6.2	34
Pennsylvania	86,400	8.3	42

by fixed charges of from $1,000 to $3,000 per mile; that is to say, by fixed charges absorbing less than half and ordinarily not more than one-quarter or one-third of net earnings from operation. The balance remaining, therefore, is sure to be satisfactory; that is to say, from 4 to 8 per cent. on net capitalization. But the marked contrast between these two groups in the first class is that one is capitalized between $30,000 and $50,000 per mile, with earnings per mile centring about $3,000; while the other is capitalized very much higher,

at $50,000 to $100,000 per mile. (Baltimore & Ohio alone exceeding that figure, but its net earnings are correspondingly large, viz., from $4,000 to $7,000 for the same unit.) This difference in earning power is, of course, largely the result of differences in density. The granger roads all have less than 1,000,000 ton-miles of freight traffic per mile; while the second group rises to 5,000,000 ton-miles per mile of line. (The Great Northern alone has a density more closely allied to that of the granger roads. Its profits result from extraordinary economy in operation.) The important point is that the relativity between the two variables is such that the net earnings stand to capitalization at between 6 and 10 per cent.; and that the fixed charges to be deducted are relatively moderate in amount.

Fixed charges, it will be noted, on the Delaware, Lackawanna & Western are enormous — $11,600 per mile of line. This is more than twice the fixed charges on the Erie. But earnings are likewise so phenomenal, more than twice those of the Pennsylvania or New Haven systems, that, while fixed charges absorb two-thirds of net revenue, a substantial balance remains. This balance focussed on the small capital of the parent company explains the phenomenally high market price of its securities.[1]

The prejudicial effect of a heavy burden of fixed charges may next be demonstrated by segregating in a second class the companies thus characterized. But at the same time the systems in this class all enjoy ample or high net earnings. In other words, while heavily burdened, they possess sufficient earning power in normal times to support it. The real test of this group is applied in times of depression. Under these circumstances the stability of the surplus after fixed charges is apt to be endangered. By way of contrast, the Pennsylvania, in the preceding group of roads with low fixed charges, having financed its new improvements by stock issues instead

[1] *Cf.* p. 231, *infra*.

INDIFFERENTLY CAPITALIZED ROADS

	Capitalization per mile	Per cent. net to capitalization	Per cent. fixed charges to net earnings
CLASS II.			
Boston & Maine	$ 55,000	6.9	80
New York Central	84,500	6.5	63
New Haven	96,600	8.7	47
Baltimore & Ohio	106,000	7.2	43
Reading	169,000	4.1	64

of bonds, witnessed during the depression of 1908 a decline in gross earnings of $52,400,000, while reducing its net earnings after fixed charges by only $2,971,000. The Union Pacific, having followed the same policy, is equally impregnable financially.

Among these five companies, fixed charges (including fixed rentals) consume between $3,000 and $4,000 per mile; that is to say, from 40 to 80 per cent. of net earnings. This is a burden of fixed charges approximately twice as great as in the first class. But, on the other hand, the rate of their earnings, sometimes attaining nearly $8,000 per mile, a comfortable balance usually remains, notwithstanding. Systems in this class are commonly so financed that this balance after fixed charges and rentals, while seemingly small, is focussed upon a parent company in itself modestly capitalized. The result is that a normal rate of return is thereby established. This point has already been illustrated by the case of the Boston & Maine. But the peculiarity of several of these companies is the fluctuating nature of this rate of return. Alternately fat and lean balances follow changes in industrial property. On the other hand, the fixity of the return upon much of the capitalization concentrates the growth for future years upon a small basis of capital stock. The financial potentialities of some of these

companies may be very great. Yet for the present they do not afford the guarantee of steady returns possessed by the groups of roads in the first class, as fortified by the advantage of low fixed charges.

Most of the companies in this group, it should be observed, are financially strong by reason of heavy density of traffic, high rates or both, giving them an ample earning power per mile of line. But in the case of other companies not in the enjoyment of such high earnings, the disadvantage of proportionately heavy fixed charges is very clear. Nor is it possible to overcome this disability readily, even by maintaining the total capitalization upon a low basis. This may be shown by the following group of roads, assignable to a third general class. These are capitalized at less than $50,000 per mile,

Heavily Capitalized Roads

	Capitalization per mile	Per cent. net to capitalization	Per cent. fixed charges to net earnings
Class III.			
Seaboard	$40,700	4	73
Missouri Pacific	33,700	6.7	80

with earnings proportionately low, but they are at the same time saddled with fixed charges which absorb three-quarters or more of their net earnings. Low earning power — whether resulting from low density as on the Seaboard, or from low rates applied to a fair density of traffic as on the Missouri Pacific — and high fixed charges are a dangerous combination, even with modest capitalization.

Railways in the fourth class, as respects their financing, are characterized by abnormally high capitalization, ranging from about $50,000 per mile of line on the Rock Island system to over three times that figure on the Erie Railroad. This ab-

solutely high capitalization is not by itself their main claim to distinction; inasmuch as several properties in the preceding class were capitalized above $100,000 per mile. The prime characteristic is a distorted relativity between capitalization and earning power. But it must be firmly grasped that it is this relativity and not the absolute volume of capital outstanding which is of moment. The Reading, capitalized nearly thrice as heavily as the Southern and with fixed charges equally greater, earns $7,000 net per mile, as compared with $1,800 on the Southern. But in both cases capitalization is so huge by comparison with earnings that a negligible balance remains for distribution. Net earnings from operation to meet fixed charges usually in this class of roads yield less than 4 per cent. on capitalization. Obviously not much balance can be expected after fixed charges are paid out of this. At this point, however, one may note a further subdivision of the roads in this fourth class. The first group (A), heavily capitalized in

GROSSLY OVER-CAPITALIZED PROPERTIES

	Capitalization per mile	Per cent. net to capitalization	Per cent. fixed charges to net earnings
CLASS IV. — Group A:			
Chicago Great Western ..	$90,000	2.8	48
Rock Island	50,000	5	74
Group B:			
Southern	$ 47,500	3.8	82
Wabash	92,500	3.5	93
Reading	169,000	4.1	64
Erie	169,000	3.9	78

proportion to earning power, is somewhat more favored in respect of fixed expenses; less than half of net being devoted thereto on the Chicago Great Western. Strongly contrasted therewith is another group (B), even more heavily capitalized both absolutely and in terms of revenue power; and, moreover,

utterly swamped by fixed charges, which absorb as much as nine-tenths of the relatively scanty income. All the roads in this group (B), whether with high or low fixed charges, may assuredly be characterized as over-capitalized from every point of view. Entirely apart from every consideration of value of the physical property, even the criterion of reasonable earning power in relation to capital issues utterly fails. Indefensible financing is clearly expressed in the market value of their junior securities. In most instances the causes of financial impotence lie buried in the past. Present managements appear to be striving manfully to rescue them from collapse. But the difficulty is enormous. Factors, which on conservatively financed roads make for prosperity, on roads of this class become almost unsupportable burdens. Thus even growth of traffic, entailing as it does the necessity for heavy capital outlay, brings no relief. For, there being no adequate surplus earnings over fixed charges to draw upon, there is no recourse except to issue more securities. The one road in this group somewhat more favored than the rest is the Reading. Product of scandal and fraud of a generation ago, it is nevertheless true that its tangible assets of undeveloped coal lands are of great value. Its potential strength has, however, always been its actual weakness. Staggering for a generation under a burden of debt incurred in order to acquire a future monopoly of this indispensable commodity, its general traffic, together with its large share of the hard coal trade conducted at monopoly prices, seem likely to carry it on to a successful issue. Time, which with its ever-recurring interest payments so preys upon its fellows in this financial class, must ultimately prove its salvation. But in the meantime the public is taxed to pay interest upon the value of the coal supply of the indefinite future.

The foregoing analysis of the finances of individual systems has, it is hoped, firmly established the fact that reasonable capitalization is entirely an affair of proportionality. Mere

absolute figures can afford little index as to financial status, either from the point of view of the investor or the public. A modest capital issue per mile of line may represent an improper fiscal policy; while a sound warrant for heavy capitalization may be at hand on another road.

A common term in corporate finance is the margin of safety. This is the percentage of net earnings which remains after providing for fixed charges, including taxes. As applied to a railroad it gives expression to the relationships set forth in the preceding paragraphs. To be specific, the margin of safety of the Pennsylvania Railroad for 1912 of approximately 60 per cent. means that this proportion of the net earnings was left over after satisfaction of all imperative payments, such as interest on debt and taxes. In other words, out of every $100 of net earnings per mile — such figures being given, of course, on a mileage basis — 60 per cent. remain for payment of dividends and surplus. A high margin of safety thus denotes financial strength. This figure, it will be observed, is the reciprocal of that given in the right-hand column of the table on page 75. Those percentages exhibit the proportion of fixed charges to net earnings, which in the case of the Pennsylvania was 42 for 1906. The margin of safety is the difference between this and 100 per cent. If charges are 40 per cent. of net earnings, 60 per cent. remain as a margin of safety. Stated either way, this relationship between charges and net earnings lies at the core of financial analysis. As we shall see in the study of reorganization,[1] a vanishing margin of safety is a practically certain sign of impending bankruptcy. That is the reason why so much of our attention in the next chapter will be devoted to examination of the relativity between stock and bond issues.

The correct interpretation of the margin of safety must be based upon a clear understanding of the fact that it is merely

[1] P. 409, *infra*.

a relation between two variables. This should already have been clear from our preceding examination; but it is worth further emphasis. Two roads may conceivably have equal margins of safety; one because it has generous net earnings coupled with heavy fixed charges, the other with slender income but a low proportion of bonded indebtedness. Yet, of the two the former, despite its larger earnings, may be relatively less secure than the latter. The New Haven showed a steadily mounting margin of safety for several years prior to its collapse in 1912. This was due to generous advances in net earnings coupled with a slow growth of fixed charges. This principle has been demonstrated during the recent lean years when operating expenses and particularly wages have risen so much faster than gross earnings. A number of roads like the Illinois Central and the St. Paul, seemingly secure so far as their margin of safety was concerned, found this assurance of continued dividend payments considerably reduced. On the other hand, certain companies like the Pennsylvania and the Atchison, having financed their later needs either through stock issues or bonds convertible into stock, were able to maintain, possibly to increase their margins of safety even in the face of declining net earnings. In other words, both net earnings and fixed charges declining in somewhat the same proportion, the margin of safety, which expresses the relativity between the two, held practically constant.

CHAPTER III

RAILROAD SECURITIES: CAPITAL STOCK, ETC.

THE capital stock of a railway, in contradistinction to its bond issues which stand for indebtedness, represents ownership and responsibility for management. This capital is divided into shares, usually of a par value of $100 each. Theoretically this par value is presumed to represent an actual investment of funds in the enterprise; and the total capital stock, together with the bonds, is supposed to equal the aggregate assets of the company. But in practice there is no such relation at all, as the wide range of market quotations for stocks above and below par readily proves. The stock may, in fact, have had no value at all at the outset save for purposes of management and control. Nevertheless, the existence of this par value, stated upon the face of each certificate, serves two very important purposes. It defines the basis upon which earnings are distributed in the form of dividends, thus enabling the public to measure the relative profitableness of operation.

And in the second place, it roughly defines the liability of each shareholder in case of failure or fraud. It is of the essence of the corporate form of organization that this liability shall be limited to the amount of the investment. Each holder of a share stands to lose its cost to himself; but he cannot be called upon further to satisfy the claims of creditors, as might the partner in a business concern. This is the principle of "limited liability," which on a large scale has made possible the co-operation of many scattered investors in complicated enterprises.

The stated par value of each unit of share capital, then, supposedly represents an amount actually invested in the enterprise.[1] This supposition may assume concrete form in the case of shares which at issue were only in part paid up; which were, in other words, emitted without a corresponding enhancement of the company's assets. These assets are the sole security of creditors, primarily bondholders. And unless these assets at least equal the face of the indebtedness, the bondholders are bound to suffer. From this circumstance flows the long-standing rule in Massachusetts and other states, prohibiting any issuance of evidences of indebtedness greater than the amount of capital stock.[2] But the principle that the capital stock is a trust fund for the benefit of creditors may go even farther than this. If the full face value of shares was not paid up, as it was asserted to be — that is to say, if the assets do not equal the capital stock — the shareholder may be called upon to make up the unpaid balance. Eighteen states in 1910 required by law that all railroad stock issues should be paid in full at their face or par value. West Virginia alone expressly sanctioned the issuance of stock at less than par. The necessity of this important rule in exceptional cases may be shown by a concrete example.

About 1888 one Harper owned a narrow gauge railway in

[1] *Cf.* chap. I, especially p. 22. Other details concerning privileged subscriptions to share capital with accompanying "rights" are treated in chap. VIII.

[2] *Cf.* Chapter IX, *infra.*

Ohio, about twenty miles long.[1] This had never even earned operating expenses, and was acquired practically for the value of scrap iron. It was subsequently described as badly built, with heavy grades, narrow cuts and fills, only temporary bridges and very light rails. Harper proceeded to organize the Cincinnati, Columbus & Hocking Valley Railroad Company, capitalized for $600,000 in stock and $1,200,000 in bonds. He personally subscribed for 2,500 of the 6,000 shares, no cash, however, being paid in. To this company he delivered his narrow gauge road in exchange for the bulk of its securities, and then turned over part of the bonds thus received to various contractors for extending the line to larger towns at each end, and for making it a standard gauge road. How thoroughly this was done appears in evidence, among other things, to the effect that the new rails were merely spread out on the old narrow gauge ties. There were no stations, no water tanks, and there was no business. It was "probably worth for scrap $2,000 per mile, or, as a railway, $4,000, or for twenty-eight miles, say $112,000, for which Harper received $1,670,000 in securities." The bonds not exchanged for work done were publicly sold. The company failed, of course. The unsatisfied creditors sued Harper for the par value of his 2,500 shares, taken on subscription, but not paid for. And the Federal court held the claim good; viz., that Harper as a stockholder was liable for full payment in money at par or its equivalent, in view of the fraudulent nature of the transaction.

The foregoing extreme case of fraudulent over-valuation of a company's assets in connection with the issue of its stock shows the danger lurking in the recently advanced proposition to abolish the par value of share capital altogether. This proposed elimination of the "dollar mark" is advocated by most eminent counsel. It was indorsed by the New York Bar Association and a statute was passed in New York in 1912 for the creation of industrial corporations with shares having no

[1] *Preston v.* etc.; Circuit Court, S. D. Ohio, W. D., Aug. 28, 1888.

nominal or par value.[1] The principle of the law was that "shares in a corporation represent only aliquot interests in its capital, whatever that may be, and that their nominal or par value is no indication of their actual value or of the actual value of the corporation." Publicity respecting the actual assets is, however, rigidly required. It is claimed in behalf of this legislation that it is in furtherance of sound business methods, in that corporations may raise funds by the sale of shares at their actual value, regardless of a theoretic standard of par, instead of resorting to an increase of indebtedness. Much testimony in favor of this plan as applied to railroads was presented to the Federal Securities Commission of 1910, which body in fact indorsed it in its report.[2] The argument is so sound up to a certain point that it merits quotation. According to this commission, a share of railroad stock "represents two things instead of one: That a certain sum has been paid in, and that the holder of the stock has a certain *share* in the ownership of the property, of whatever value that may prove to be. The second of these things is what ultimately gives the stock certificate its value. In the case of a railroad bond the fact that it calls for one hundred or one thousand dollars is a determining factor in what it is worth. But in the case of stock, the fact that the certificate represents one hundred or one thousand dollars is far from being the determining factor. It is but one incident among many. Even in theory it purports merely to show that this was the amount originally paid by the subscriber when the road was built. It does not create an obligation to pay its face value, nor does that face represent its money value as a share. The value varies with the development of the property as a whole. If it has been wisely located and well managed it will be worth more than the amount it represents. If it has been unwisely located, or badly managed, it will be worth less than the amount it represents." . . .

[1] *Harvard Law Review*, vol. XXVI, 1913, p. 729.
[2] Report, p. 27. *Cf.* Railroads: Rates and Regulation, p. 575.

"The principal of a bond is a fixed sum, its interest a fixed charge. The value of a share of stock is essentially variable, its profit essentially indeterminate."

"There is a persistent tendency to ignore this distinction; to emphasize unduly the face value of the stock; to treat the shares in a railroad or other public service corporation as claims against the community for the number of dollars they represent, rather than as fractional interests in a more or less hazardous enterprise, in which the investors took risks of loss and chances of profit; to allow corporations to claim immunity from public regulation when the dividend on the face value of the shares is below the prevailing rate of interest; and to subject them to vexatious attacks when this dividend is above the prevailing rate of interest, even when such profit may be a fair compensation for risks actually incurred in the past or a necessary incentive for the investment of new capital and the taking of new risks in the future."

In practical application, with elimination of a stated par value, each share instead of theoretically at least standing for $100 paid in, would become a "certificate of participation" in earnings. Dividends would be declared, not in a percentage of capital stock but as a fixed sum of money per share. The plan has already been adopted by public service companies. Street railway lines, notably the Massachusetts Electric Companies in New England, are organized as voluntary associations. The United States and the Adams express companies have no par of stock, but issue "interests" or "shares of interest," as they are termed. The Great Northern Railway iron ore properties in 1907 were thus financed and set apart. It has been proposed to reorganize the surface trolley lines in Chicago in a similar way. The first year's experience of the New York statute for industrial companies has been indeterminate. Promoters and bankers have made little use of it, fearing lest so radical a departure from long-accepted practice should arouse distrust among investors.

The proposition to eliminate the par value of capital stock, whatever its advantages from the standpoint of private finance in the way of safeguarding investors against fraud, seems to be open to serious objection when applied to common carriers or other public service companies, even when accompanied by the safeguard of full publicity. It would tend to release the promoter from positive liability for over-capitalization of an enterprise at the outset. There being no par value, there is no obligation to pay in any stated sum per share. The equivalence of assets and capitalization, which ought to obtain in the case of a company holding valuable rights from the public, becomes non-existent. And what is of great importance for the future under the growing tendency to ascertain the physical valuation of the property, all standards by which to readily measure the reasonableness of the general scale of charges disappear. The scientific accountant must have some absolute basis for his bookkeeping.[1] Without some such starting point the relation between a fair return upon the investment and a surplus arising either from issue of shares at a premium or inordinately high rates becomes difficult to state. And finally, the abolition of par value, permitting carriers to issue capital stock for relatively small sums in cash, cannot but encourage speculative interest in railways — an element of danger much to be deplored. But par value or no par value, one thing is beyond question clear. Capital stock must be in fact what it purports to be. If it purports to represent one hundred dollars paid in on every share, one hundred dollars or its full equivalent must actually have been invested. Such a principle lies at the root of all sound public or private financial policy.

Originally all railway shareholders seem to have stood on an equality in respect of their rights and obligations. But

[1] W. M. Cole, Accounts, p. 163. *Cf.* also Cleveland and Powell, Railroad Finance, p. 43.

in Great Britain preference in favor of certain holders soon began to be made. The first to appear were founders' shares, taken as the name indicates by original stockholders in connection with promotion. These, entitling the owner to a disproportionately large share of profits, naturally command a high premium. This expedient has never been adopted in American practice. Another distinction between different classes of shareholders appeared in England in connection with the railway mania of 1845.[1] The Great Northern Railway, being seriously embarrassed in enforcing its calls for payment, permitted shareholders to split their subscription into two halves, one guaranteeing a fixed dividend in preference over the other which was entitled to receive merely the balance of earnings. These latter were known as deferred shares, partly because the subscriber was relieved from immediate calls for payment. The plan was subsequently adopted by a number of other British railways. In America the practice of dividing capital stock into classes, whether or not in imitation of the English plan, does not appear until a considerably later time. The simplest device was to create a preference as to dividends upon a relatively small part of the stock, leaving to the so-called common shareholders whatever balance might be left. By reason of this preference one would suppose that the preferred stock would command a much higher price than the common shares. But this need not be so. For usually there is coupled with the preference as to dividends, the further provision of limitation of the rate of return to a fixed percentage. Thus the Union Pacific Railroad had at one time outstanding $100,000,000 of preferred stock, strictly limited in return to 4 per cent. Nor was this 4 per cent. return cumulative in this instance. If not earned in any given year, the deficiency did not become a charge upon earnings of subsequent years. As a result, the market value of the preferred shares was relatively

[1] McDermott, p. 164. Withers' Stocks and Shares, p. 32. *The Economist*, 1900, p. 739.

stable; but at a far lower price than the common stock commanded. All surplus earnings over and above the stipulated per cent. going to the ordinary shares, gave the latter a peculiar, albeit a speculative, value. This arose, naturally, from the fact that it was the residuary legatee of all future increments of revenue. As between two railways having equal share capitals, and being otherwise similarly circumstanced except that one had split up its capital into common and preferred sorts, while the other had not, one would expect wider price fluctuations for the common stock of the former than of the latter. Fluctuations in earning power in other words would be focussed upon a smaller base. The same concentration of changes in market value, based upon earnings, occurs also, as will soon appear, when the entire capital stock is relatively small as compared with the bonded indebtedness.

The nature of the preference accorded to one class of shares may be of many sorts.[1] Sometimes, as on the Chicago, Milwaukee & St. Paul, both classes of stock share alike after the first preference is met. In other cases, as on the Chicago & Northwestern, the 7 per cent. preferred shares are entitled to an additional 3 per cent. preference, after the common shares have received 7 per cent. Not until 10 per cent. is thus paid upon the preferred may any additional dividends be declared upon the common stock. The Seaboard company limited the non-cumulative feature to a period of five years, ending in 1910. The Reading company, by reason of repeated reorganizations, has a still more complicated arrangement. There are two classes of preferred shares ahead of the common stock, both 4 per cent. non-cumulative. After 4 per cent. has been paid for two consecutive years on the first class, the second may be converted into common and first preferred stock in equal parts.

[1] For details of preferred shares, consult *Commercial and Financial Chronicle*, vol. LXVI, pp. 804 and 835; and Investor's Supplement, 1897–'08.

Both the Colorado & Southern and the Erie also have two distinct classes of preferred shares.

A peculiar instance of preferred stock may be mentioned in this connection. Many railways have only one class of share capital, all being common stock. The Great Northern has only one class, but it is all preferred. No common stock has ever been issued. This peculiarity is due to a charter right dating from 1865, which authorized the issue without limitation of such classes of preferred shares as it deemed proper. Under this charter the company claims exemption from state supervision of all capital issues of a preferred sort, and carefully refrains from any emission of common stock at all. Probably the most complicated scheme of all was the mode of financing of the old Chicago Great Western. This followed the English practice, with no less than four distinct grades of preference in its capital issues.

The reasons for creating a preference in the share capital of a company are at least five in number. The early English practice of "splitting" shares, above-mentioned, seems to have been a device for coping with certain difficulties regarding payment of subscriptions. But in the United States the original cause was probably in part sentimental. A new enterprise could be made a dividend payer from the outset by concentrating the first meagre revenue upon a small proportion of preferred stock. Regular dividends even upon only a portion of the total capital considerably enhance a company's credit and its reputation among investors. Sometimes indeed, as on the "Frisco" up to 1913, an entirely specious appearance of prosperity may be kept up for years. This company was borrowing immense sums through the sale of securities at heavy discounts to meet its current obligations. But the effect of the continuation of preferred dividends up to the eve of bankruptcy, both upon bankers and the public, was utterly misleading.[1]

A second reason for the issuance of preferred stock was to

[1] 63rd Cong., 2nd sess., Senate Doc., 373, p. 19. *Cf.* p. 41, *supra.*

raise new capital for extensions or improvements. Possibly the condition of the money market may be such at times as to preclude borrowing, that is to say, issuing bonds or notes. Or, as under the laws of many states, the bonded debt may already fully equal the capital stock, so that further borrowing is impossible. Furthermore, the issue of new shares may be preferable, as they do not create fixed charges to become an embarrassment in periods of depression. But the preference clause must be added in order to appeal effectively to conservative investors. Such was undoubtedly the motive in the financing of the Southern Pacific company in 1904. Called upon to repay large advances for improvements by the Union Pacific, it could not issue bonds. Nor could it issue new common stock at the market price of $45 per share then prevailing. No other course than the issue of preferred stock was open. Five years later, surplus revenues having increased, the entire issue was retired at $115 per share. This provided a substantial bonus to those original shareholders who had come forward to aid the company when the issue was put forth. And temporary financing was effected without increasing fixed charges. This was the issue, by the way, concerned with the notorious Keene stock market pool, elsewhere described.[1]

A third and most important cause of preference in share capital has to do with financial reorganization.[2] Bankruptcy is occasioned by inability to meet fixed charges, that is to say, interest upon funded or current obligations. It may be brought about by temporary causes, such as the industrial depressions of 1893 or 1907. The natural growth of business may ultimately bring increased revenues sufficient to cover such imperative needs; but time is necessary. On the other hand, the bondholders with prior liens upon the assets are in a position to dictate terms to the stockholders, who stand to lose all in foreclosure proceedings. A fair compromise would seem to be to accord preference as to future earnings to those whose claims

[1] P. 217, *infra*. [2] *Cf.* p. 371, *infra*.

as bondholders must first be satisfied. The new company, by the exchange of part of its funded obligations for preferred stock, is relieved for a time of an undue burden of fixed charges; and surplus earnings as they emerge go to those to whom they rightfully belong. This practice appears as early as 1877 when preferred shares were exchanged for the old bonds of the bankrupt Lake Superior & Mississippi River Railroad. Again in 1888 in connection with reorganization of the Chesapeake & Ohio, a mixed lot of bonds and preferred shares were used to satisfy the claims of the original bondholders. But the most general acceptance of the plan appears in connection with the numerous reorganizations attendant upon the panic of 1893. Six of the seven most important rehabilitations of railroad properties within the succeeding four years of depression made use of this expedient.[1] It is evident that by the device of preferred shares the old bondholders were given rights to such earnings as might accrue up to the limit of the return to which they were entitled by their former holdings; and yet the new shareholders very properly reserved to themselves all increments of revenue over and above this amount. Occasionally also, preferred shares may arise in a reorganization as they did on the Chicago & Alton after 1898. A specially attractive "participating" type was offered in exchange, in order to call in the last remnants of old railroad stock outstanding.

A definite prohibition of the issuance of bonds or additional securities of any sort taking precedence over the existing preferred stock in future, without its consent, is a precautionary measure not infrequently taken. Most of the new preference shares of the period of 1893 were thus protected. Such ought always to be the case. In fact the assent of any class of security holders ought to be required for an additional issue of other securities having a prior claim on earnings or assets. Otherwise, as Lyon[2] puts it, the common shareholders by

[1] *Cf.* p. 402, *infra*. [2] Capitalization, p. 70.

"trading on a little thinner equity" through new bond issues or more preferred stock may endanger the margin of safety of the preferred shares already outstanding.

Preferred shares not only may arise out of disintegration of railway properties through reorganization. They may also be an outcome of consolidation. The two properties to be joined may be of very unequal earning power. They may also possess assets of widely different value. One may be a great earner at present; the other may have valuable franchises or potential earnings in future. It is to the interest of both to combine. The shareholders must come in, if at all, on different terms. The simplest device is to accord a preference as to dividends to the one class, and indefinite possibilities of future profit to the other. The issuance of preferred shares completely solves such problems.

The fifth and final reason for preferred stock issues is that they may serve as an expedient for concentration or retention of control, with a minimum amount of investment. Such concentration may, of course, be as effectively applied to the common stock. In the Hudson Companies, which control the North river tunnels, all voting power is vested in $5,000,000 of common stock, while $16,000,000 of preferred shares are a nonentity in management. Legitimate enough when used to safeguard the interests of former bondholders after a reorganization, as employed by the Wisconsin Central or Ontario & Western, such a device employed in the Rock Island Company, is most prejudicial to common stockholders.[1] Fortunately the experience of this latter company shows it to be a plan which largely defeats its own end. Any large class of stock, deprived of its voting rights, may be expected to make little appeal to the investing class.

The disadvantage of creating distinctions in share capital is that they give rise to conflicts of interest between the different classes of holders. These conflicts most commonly

[1] P. 153, *infra*.

arise: first, with respect to relative claims upon assets in case of disaster; secondly, with reference to the current control of the property through exercise of voting power; and thirdly, as bearing upon the policy of the company in the matter of dividends.

Controversy over the rights of different classes of shareholders in the division of assets usually arises in connection with bankruptcy or reorganization. Signal contests of this sort have arisen on the Baltimore & Ohio and Northern Pacific roads.[1] Does a preference as to dividends imply or bestow a preferred claim upon the assets in case of foreclosure? Especially is this difficult to determine where, as on the Northern Pacific road, the preferred shares were exchanged in reorganization for old bonds which were direct liens on land. In other words, a nice issue is raised as to the distinction between preferred share capital and income or prior lien bonds. Where both are accorded preference both as to earnings and assets, the two kinds of securities are practically identical. Sufficient litigation upon this point has been had, to enforce the need of clear definition of such rights in the charter. The same question as to relative liens upon property also arises in connection with the disposition of surplus assets. In the attempted segregation of Union Pacific investments in other roads after 1908, the preferred shares were a continual stumbling block. The distribution finally took place in connection with the dissolution of the Union-Southern Pacific merger in 1913.[2] The Southern Pacific stock held by the Union Pacific was in part exchanged under order of the Supreme Court of the United States for an equivalent in Baltimore & Ohio shares held by the Pennsylvania. About eighty-two million dollars of Baltimore & Ohio stock, thus received, was then distributed among Union Pacific common stockholders. This division of assets

[1] *Commercial and Financial Chronicle,* vol. LXV, pp. 216, 804; vol. LXVII, p. 664; vol. LXII, p. 1212.

[2] Chapter XVII, *infra.*

was accompanied by a reduction in the rate of dividend upon Union Pacific common stock from 10 to 8 per cent. In this distribution the preferred shareholders did not participate. Appeal was made to the courts for recognition of their rights. It was alleged that these Baltimore & Ohio shares constituted part of the capital of the Union Pacific road and that in any division of this capital all stockholders were entitled to share alike, inasmuch as such dissipation of assets lessened the margin of safety protecting the continuance of regular returns upon even the preferred shares.[1] It seems not unlikely that a similar question might arise were the Reading company to attempt the segregation of its coal lands. Irrespective of the rights of shareholders, however, the wisdom of distributing assets when the liabilities created to acquire these assets are still outstanding seems open to question.

Disputes concerning control of the property not infrequently arise as between common and preferred shareholders in connection with the exercise of voting power. Stipulations concerning rights of this sort are of great importance. The Wisconsin Central charter entitles preferred shareholders to elect a majority of the directors in case of failure to pay the full prescribed dividend for two years in succession. Voting rights, as we have seen, are at all times vested in the relatively small amount of preferred shares of the Rock Island company.[2] The common shareholders, although overwhelmingly outnumbering the preferred shareholders, have practically no voice in the management. The same thing was long true of the New York, Ontario & Western. On the old Richmond & Danville, the courts put a stop to an attempt by the preferred shareholders to utilize their temporary voting rights to conclude a lease of the East Tennessee road for 99 years in their own interest entirely.[3] In this connection the provisions concerning retirement or conversion

[1] First decision of April 2, 1914, denied this claim.
[2] Pp. 153, *supra* and 525, *infra*.
[3] P. 381, *infra*.

of special classes of shares are oftentimes of great importance. Southern Pacific preferred shareholders, for example, might convert their holdings into common stock after 1905; and the company might redeem them at $115 for five years after 1910. Other issues bearing the same option were subsequently put forth, some of them carrying the privilege of exchange for bonds. Under this arrangement practically all the preferred stock was exchanged for common shares. The issue was in many respects analogous to a convertible bond with a sinking-fund stipulation. The importance of a clear definition of the voting rights and also of provision for retirement or conversion was well illustrated by the Northern Securities imbroglio in 1901.[1] The outcome of the spirited buying campaign for control of the Northern Pacific road between the Harriman and Hill interests finally resulted in the ownership by Harriman of a majority of about $1,000,000 in the total capital stock of the company. But this majority was principally in the preferred shares. The Morgan-Hill party controlled a clear majority of the common stock; and at the time dominated the board of directors. Harriman control, however, despite ownership of a majority of the total capital, was thwarted by a retirement clause applicable to the preferred stock. Thus the control of the entire property depended upon the exercise of this retirement privilege on any January 1st prior to 1917. Normally the Harriman party would have assumed charge at the annual meeting in October; but this could be prevented by postponement of the election of new directors until after the first of the new year, when the preferred stock became subject to retirement. It was a complete deadlock, resulting in truce and subsequent compromise between the contending parties.[2]

The third possibility of dispute attendant upon the creation of distinct classes of shareholders has to do with dividend policy. Most preferred shares of railroads, in sharp distinction to preferred shares of industrial concerns, are non-cumulative

[1] P. 493, *infra*. [2] P. 497, *infra*.

as to dividends, — that is to say, dividends not declared in one year are forfeited forever. Occasionally, as on the Rutland Railroad since its reorganization in 1902, the cumulative feature may be added. The preferred shares in this case, by exchange in the ratio of ten for one, came to constitute 98 per cent. of the entire capital stock. But the disabilities of the road were such that by 1911, 179 per cent. of back dividends upon these preferred shares were heaped up as a heritage from its checkered past. In this case as on the Père Marquette, whose preferred shares also were cumulative, no earnings above charges were available for distribution. The real difficulty arises, however, when earnings are ample. Question may then be raised whether they shall be distributed as dividends or put back into the property in the form of permanent improvements. A typical controversy of this sort arose upon the St. Joseph & Grand Island Railway about 1911.[1]

Controversies arising in connection with the conflicting rights of different classes of shareholders illustrate the possibility of abuse of power by a strongly intrenched majority. Under existing corporation laws the rights of minority stockholders have too often been sacrificed.[2] The Federal Securities Commission of 1910[3] in order to meet this situation recommended legislation which should compel a railway company, acquiring control of the common stock of another road but not of its preferred shares, either to buy the preferred stock or to make the preference cumulative. For, as they said, the continued existence of a non-cumulative preference under such conditions offers constant temptations to unfair dealing, if not to actual fraud.

On the whole, it appears as if the proportionate differentiation of share capital followed certain well-trodden paths of development. Preferred shares amounted to about one-seventh

[1] P. 141, *infra*. [2] P. 445, *infra*.

[3] Report, p. 31. *Cf.* Railroads: Rates and Regulation, p. 573; also p. 453, *infra*.

of the total capital stock of American roads in 1890. This proportion reached a culmination in 1898, when about 27 per cent. of total share capitalization was preferred. This, as will be seen, was a direct outcome of the widespread reorganizations incident to the panic and depression of 1893–'97. It was also in part probably connected with the financing of new railway consolidations. Since 1900, however, the proportion of preferred shares has tended to decline; amounting in 1913 to only about one-fifth of the aggregate share capital of the railways of the country. Normally it may be expected not to deviate widely from this proportion. The tendency for 1911–'13, is not without interest. During three years an increase of common stock for the railway net of the United States of $643,000,000 was accompanied by a positive decline of $19,000,000 in preferred shares outstanding. Yet certain indications of impending danger through over-borrowing, unless arrested in time, seem likely to bring about a number of reorganizations; in which event preferred stocks may again come into prominence as in 1893–'97. Thus would a cycle again be completed.

The relative amounts of capital stock and bonds in railroad finance have varied from time to time, swinging like a pendulum above and below substantial equality. In the beginning, as outlined in our first chapter, stock issues played an important part; but gradually, for a number of reasons, borrowing on a more or less generous scale came into vogue. Bonds were put forth, partly because the final cost of new roads exceeded original estimates, partly because imperfect construction had to be brought up to standard, and partly because of the unforeseen need of working capital. Shares came to play a subordinate rôle at last, serving often merely as a bonus to promote the sale of bonds. Borrowing for purposes of construction first attained marked prominence between 1855 and the close of the Civil War. Speculation was rampant. The railway net was being rapidly extended, almost without regard to

economy of construction. And, most important of all, state aid was being widely granted, either through subscription to bonds, official guarantee of interest or exchange of state and municipal bonds for railway bonds. Prior to 1870 the state of Massachusetts alone had loaned $11,290,000 in these ways. New York had taken $8,200,000, likewise in bonds. Southern states like Tennessee had substituted bonds for stock subscriptions, as a stimulus to new enterprises. During the Civil War period, however, in the East, the financial centre of the country, the huge issues of United States bonds seem to have absorbed much of the loanable capital of the country. The Pennsylvania, New York Central and Illinois Central, for example, either ceased augmenting or actually decreased their bonded indebtedness. Bonds were still the main reliance in the pioneer enterprises with stock issues rather as a bonus than a mainstay.

As soon as the war was over, and particularly upon the establishment of closer financial relations with Europe, bond issues reassumed prominence even on eastern roads. Jay Cooke and other American bankers turned their activity from financing the Federal government to such enterprises as the construction of the Northern Pacific. But all European capital for railroad purposes came to this country in the form of mortgage loans. The high degree of reliance upon bonds is shown by the financing of the Union Pacific. Its one thousand odd miles of line completed in 1869 were paid for by bond issues more than double the amount of the capital stock. The late '60s, with the exploits of Jay Gould and his associates, greatly augmented the proportion of bond issues as compared with stock.[1] The Erie had always led in this sort of financing. Even as early as 1851, it had $14,000,000 of bonds outstanding, with only $6,000,000 of stock. An extreme example of over-issue of bonds occurred on the old St. Paul & Mississippi. When this was acquired by James J. Hill in 1878, it had $33,-

[1] Compare our Railway Problems, chap. I.

000,000 of bonds outstanding as against only $6,500,000 of stock. What a nucleus for the present Great Northern system, which built its success almost exclusively upon stock financing! Commodore Vanderbilt, on the other hand, was much averse to the issue of bonds by the New York Central; and was finally persuaded to do so only on condition that he buy and hold them himself. As for the transcontinental lines, such as the Union and Northern Pacific, no other resource than bond issues was possible; and the same thing was true of most speculative construction in the West. Matters went on thus until the chapter was ingloriously closed by the panic of 1873, when nearly five hundred million dollars of bonds, railroad and other, defaulted in interest.

The period of twenty years from the reorganizations incident to the panic of 1873, continued to show heavy reliance of railway financiers upon borrowing as a means of finance. This was especially true of the trunk lines during the decade of the rate wars after 1874. The Baltimore & Ohio, which until this time had been conservatively mortgaged, became hopelessly involved in debt within a few years. By the late '80s, the percentage of its income absorbed by fixed charges, ran up from about one-third to nearly nine-tenths. With the beginning of official data for the United States in 1889, it appears that for the country as a whole, stock and bond issues had reached a rough equivalence; although in part of the South, in New England and the Far West stock issues still appreciably exceeded the bonded indebtedness. Above this proportion of equality, it was not possible for bonded indebtedness to go under the corporation laws of many states. Several years after this time the general trend was still in the direction of increased bond issues so far as new financing was concerned. To borrow, in other words, was easier than to secure stock subscriptions from shareholders. Mortgage indebtedness continued to grow at the expense of stock, wherever it was possible. The proportion of reasonable safety was exceeded in many cases, until

the rude shock of another financial panic again restored a proper balance.

The four years of industrial depression following 1893, were marked by the bankruptcy and reorganization of a great many railways. No less than one-sixth of the mileage and one-quarter of the aggregate capitalization of the carriers of the United States fell into the hands of receivers, because of inability to meet fixed charges out of current earnings. The unwise and reckless amount of borrowing in the preceding years is well evidenced by this fact. It was inevitable, therefore, that the extensive readjustments of railway capital incident to the reorganizations of this time should have as a prime motive the reduction of fixed charges in proportion to income. This reduction was effected by the exchange in many cases of bonds, on which default of interest had occurred, for preferred stock with a dividend lien contingent upon earnings. Fifty-seven companies, reorganized during this period, effected a reduction of fixed charges to the amount of $19,600,000. The seven principal ones cut the proportion of net income required to meet fixed charges by nearly one-third. Atchison in 1895 lessened its fixed charges by $4,185,000; Northern Pacific in 1896 by $4,755,000. Prior to 1895 the annual increase in railway capital had shown usually a large preponderance of bonds. During 1895 a change took place, stocks increasing during that year $127,000,000 and funded debt only $28,000,000. For the year 1896 stocks increased $265,000,000, while funded debt actually decreased $45,000,000. The next year, for the first time in many years, the amount of stock outstanding exceeded that of the entire funded debt.

With the return of normal conditions in 1897, the trend in favor of bond issues instead of stock as a means of railway financing once more became pronounced. At the present time mortgage indebtedness has again so far increased as to constitute, in the opinion of conservative students, a menace for the future. The extent of this resort to bonds, rather than stocks, is shown by the accompanying table.

PAR VALUES — TOTAL OUTSTANDING SECURITIES, ACTIVE CORPORATIONS — JUNE 30, 1913

Funded debt		$11,185,500,000
Capital stock		8,610,600,000
Preferred	$1,379,000,000	
Common	7,231,500,000	
Total capitalization		$19,796,100,000

The complete reversal of the tendency away from borrowing of the lean years 1893–'97 is manifested by the foregoing table. The two forms of capital, representing ownership and indebtedness respectively, remained about even until 1902. But year by year after the panic of 1903 bond issues predominated. By 1908, 56 per cent. of outstanding capital was represented by such mortgages. The next four years witnessed little change until 1912 set an even higher record in this regard. In that year bond issues exceeded capital stock per mile of line by nearly one-third. For the railway net of the United States gross stock issues equalled $35,000 per mile of line as against $46,000 in bonds. Otherwise stated, there were outstanding about $11,000 more of bonds per mile of line than of share capital. Within the period 1900–'13 railroad stocks increased by 45 per cent.; while the funded debt grew by about 80 per cent. — nearly double the rate. Thus it has come about that, despite the relatively low rate of return upon bonds, fixed charges of one sort and another now absorb about three-fifths of gross income.

The original causes for the gradual relegation of stocks to a subordinate rôle as compared with bond issues have already been set forth. They had to do with imperfect and experimental promotion. These causes were quite different from those of the extensive bond issues of the generation following the Civil War. An important factor at this time was the attitude of the state legislatures, theoretically at least, toward the emission of railroad stocks at a discount. Such prohibition seems to have been borrowed from banking experience, which was the main guide in matters of corporation finance. Rail-

road stocks, however, at that period almost always stood below par. To issue new stock below par was a legal impossibility in most states, even without the heavy financial loss which in any case would attend issuance at the necessary discount. Bonds alone could be put forth to sell at or near their face value. Stocks and bonds could, however, under the law be marketed jointly, on the theory that all the discount was on the bonds. The wisdom of such legislative prohibition is perhaps open to debate. An enterprise might conceivably be better off with $2,000,000 of capital stock issued at a discount and with no fixed charges, than with $1,250,000 of stock and $750,000 in bonds. But, at all events, little choice was afforded to companies whose shares stood below par. There was no alternative except to raise funds by means of borrowing.

Present-day conditions, however, are radically changed. The general level of market prices for railway stocks, until very recently at least, was well above par.[1] The shares of a much smaller proportion of railroads now have quotations which are below their face value. Why has it not been feasible to raise more new capital by the issuance of capital stock? That this has not been done, requires some explanation. In the first place prosperity and a steady growth of income always invite increased borrowing. Such was certainly the condition for some time after 1900. Bonds are readily salable in good times. Borrowed capital yields larger returns than the interest rate upon the loans, thus rewarding shareholders more liberally by concentrating the increased earnings upon a smaller amount of capital stock. The interplay of motives is exhibited by the following table. Upon the assumption that the business in hand is sufficient to yield 7 per cent. upon the total investment, this table gives the results of a division of this total capital into varying proportions of bonds and capital stock. It will be noticed that proportionately to an increasing amount of bonds at a relatively low interest rate, the dividend upon the

[1] *Cf.* chap. V, *infra*.

capital stock tends to augment. Thus contrasting Plans 1 and 5, it appears that through borrowing three-fourths of the capital at 6 per cent. instead of borrowing none at all, the dividend rate is increased from 7 to 10 per cent., although the

Plan	Proportion of bonds	Interest rate on bonds	Proportion of stock	Dividend rate on stock	Average return on total capital
1	0	0	All	7	7
2	1/3	4	2/3	8½	7
3	1/2	5	1/2	9	7
4	2/3	5½	1/3	10	7
5	3/4	6	1/4]	10	7
6	4/5	6½	1/5	9	7

total net returns from operation remain unchanged. It will be noted coincidently that along with an increasing indebtedness, the interest rate upon the bonds tends to rise. The figures given above are purely arbitrary; but they are intended to bring out this fact. It arises necessarily from the greater risk attendant upon the lessened margin of assets over and above the loans. And the gradation of the interest rate up to the point of saturation of credit fixes in its turn the upper limit of profitableness to shareholders from the operation. Thus, upon the assumption in Plan 6, it appears that the borrowing limit, determined by the given interest rate, has been overpassed, whereby the balance remaining for dividends has actually declined by comparison with Plan 5. There can be no doubt that a strong incentive toward increased bonded indebtedness in recent years has been of the nature indicated by the foregoing presentation.

Another inducement toward increased bonded indebtedness of late has been the desire to perpetuate control of subsidiary roads by means of a relatively small and closely held capital stock. Unless thus closely held, a restricted share capital is

an invitation to speculative raids. This is well exemplified in the pitiful history of the Cincinnati, Hamilton & Dayton, to which further reference will shortly be made. Nor do new bond issues by any possibility expose a controlled company to such piratical tactics as John W. Gates employed in the Louisville & Nashville stock financing of 1902.[1] Moreover, sale of bonds only can be resorted to either for drawing upon European stores of capital, or the huge investment surpluses of the great insurance companies and savings banks. Stock sales are more apt to be restricted to private investors; while institutions and trustees, even in the most conservative states like Massachusetts, are often permitted to purchase railway bonds, if properly secured and if not issued in excess of the outstanding capital stock. Hand-to-mouth financing also usually leads in the direction of mortgage loans. Great enterprises like the Pennsylvania or New York Central terminals in New York, extending over many years of construction, might at any time be embarrassed by an abrupt cloture of financial resources. Forced repeatedly, as in 1903, 1906 and 1907, to the issue of short-term notes at high rates of interest, in order to carry out interrupted undertakings, these loans at maturity had to be refunded by the sale of long-term bonds under more normal conditions.

The contrast between an old-fashioned financing on the basis of a share capital with a small debt, and modern resort to extensive borrowing, was never more strikingly illustrated than in the reorganization of the Chicago & Alton after 1898.[2] Under a conservative management 8 per cent. dividends were paid upon a small capital, and the surplus earnings were used either for improvements or to diminish the bonded debt. Within seven years to 1906, without change of the capital stock, by a complicated series of questionable operations, the bonded debt was expanded from $33,900,000 to $114,600,000. Leaving details as to the public phases of such transactions aside for

[1] P. 219, *infra*. [2] P. 262, *infra*.

future consideration, the important point to note is that by substitution of new low-rate long-term bonds for maturing high-rate ones, the increase of fixed charges was still kept within the bounds of net earnings. Interest charges were in fact expanded from $2,790,000 to $3,470,000, or less than one-quarter. In the meantime the total bonded debt had increased more than threefold. The company remained safely solvent, to be sure; but all earnings went to bonds instead of primarily supporting a large share capital. And this share capital, once possessing real investment worth, was soon degraded to a speculative foot-ball. Enter once more the Cincinnati, Hamilton & Dayton as an awful example of similar proceedings. Its outstanding bonds ran up within two years to 1906 from $12,000,000 to four times that figure, while the floating debt grew from $200,000 to over $10,000,000.[1] What actually happened to each of these unfortunate properties was the substitution of something like financial Plan 5 upon our table on page 30a for Plan 2 with one important modification. The proportion of loan capital was vastly increased, but with the added circumstance that the state of the public mind encouraged borrowing at very low rates of interest. Consequently, instead of resting content with borrowing three-fourths of the old capital at 6 per cent., it was possible to borrow something like twice as much at a figure nearer 3 per cent. In other words, to confuse terms, stock-watering took the form of an over-issue of bonds. In those days a bond was a bond, — without query as to its character or security. Loans in almost unlimited amounts could be contracted without question. "A. O. T." (Any Old Thing) as it was jocularly put, was quoted upon the ticker well above par.

Yet a third reason for the recent relative expansion of bond issues is their intimate relation to the consolidation of once independent properties into great systems. Analysis shows that among these extensive recent borrowings, collateral trust

[1] P. 214, *infra*.

bonds played a very large part. One railway after another, beginning with the New York Central purchase of the Lake Shore in 1898, acquired connecting companies by offering its own bonds, secured by deposit of the purchased shares as collateral, in exchange for the stock of the merged company. An enormous volume of such bonds, constituting mortgages, not of real property but of other securities, was put forth after 1899. About 15 per cent. of the entire indebtedness of active companies in 1912 was collateral trust bonds of this sort, aggregating $1,279,000,000. These securities were of course merely duplication of pre-existing issues; and, as already explained, cannot be regarded as expanding the railway capitalization of the country by anything like their face value. But the danger in a disproportionate growth of fixed interest-bearing obligations as compared with stock, looms up just the same in time of depression. All goes well under prosperity. An apparent profit from collateral trust bonds may even appear when, for example, a company borrows by such bonds at 4 per cent. and therewith purchases stocks which pay 5 per cent. in dividends. But let traffic and net earnings decline, and the difference between contingent and fixed charges becomes painfully apparent. Nor has this difference to do with the mere mode of consolidation. The danger would be as great if title to the new property had been taken in fee instead of through stock ownership. But this latter expedient is so much easier! The important point in either case is that bond issues entail financial burdens entirely independent of the volume of business.

In connection with these recent consolidations the circumstance may also be mentioned that one railroad, having invested in the stock of another in order to secure control, may be loath to permit an increase of the capital stock of the subsidiary company because of the necessity of its participating as a shareholder in the new subscription. Under such circumstances the treasury of the parent road would not be

disturbed were funds for the subsidiary to be raised by bond issues. The awkwardness of becoming responsible for the success of new stock of a subsidiary road was demonstrated in connection with the increase of capital of the Maine Central in 1912–'13. The Boston & Maine in order to make a market for the new shares was obliged to issue short-term notes in order to take up far more than the proportion necessary to insure its continued control.[1]

That many of these recent bond issues were convertible into stock affords a measure of solace to the conservative on-looker. Such indebtedness may be less dangerous than where the conversion privilege is absent. Some companies, notably the Pennsylvania, the Union Pacific and the Norfolk & Western, were able greatly to reduce their fixed charges by the automatic conversion of their funded indebtedness into stock. But it will be noted that this outcome is confined to those companies sufficiently prosperous to invite such conversion by stock quotations at or above par. The reasons for the popularity of the convertible bond, revived after more than a generation of disuse, are numerous.[2] But their appeal to speculatively-minded investors, tempted in an over-loaded market since the appearance of the great industrial companies by other forms of investment, and their usefulness in permitting gradual growth of share capital through conversion *pari passu* with the growth of earnings incident to extensive improvements, are sufficient for mention in this connection. Were these bonds all to be considered as actually convertible, the over-expansion of railroad borrowing in proportion to share issues would be materially reduced. But the fact is that unless either the Interstate Commerce Commission in the pending rate cases becomes avowedly liberal in its policy, or the present trend of railroad expenses is materially altered, these convertible issues

[1] P. 170, *infra*. *Cf.* testimony of Floyd Mundy before the U. S. Securities Commission of 1910.

[2] Treated in detail in the next chapter.

seem likely to remain outstanding as downright mortgage indebtedness for an indefinite period.

An indication of the over-weight of borrowing during these years was afforded by the applications for new capital by railroads in New York during the life of the up-state Public Service Commission. For the five years to 1912 such applications aggregated $440,000,000 in bonds, as compared with only $50,000,000 in capital stock. For the United States as a whole, despite the dangerous proportion of bonds, above-mentioned, all that was accomplished after 1908 was to arrest the prevailing tendency. No salutary reaction towards stock occurred. One reason for this was the inability even of high-grade roads to borrow on any terms, to say nothing of the weaker properties whose backs were already bent almost to the breaking point by the burden of their outstanding obligations.

Reference has been made to the long-standing policy of many states which limits the issue of bonds or other evidences of indebtedness to the amount of the capital stock. Certain events of late are indicative of a change of sentiment in favor of greater elasticity, — and this, too, at a time when, as we have seen, borrowing is already excessive. Since 1854 the bonds of Massachusetts railroads were protected: first, by a statute of the sort above-mentioned; and secondly, by the requirement that a railroad having issued bonds should not subsequently mortgage its property without at the same time making provision for the continued security of all prior issues. This latter provision made it possible to put forth debentures without the formality of a deed of trust. But in 1913, in connection with the creation of a public service commission of a modern type, these safeguards were substantially modified. The railroads demanded and secured as the price of their acquiescence in this legislation, a clause permitting bonded indebtedness to be created equal to twice the capital stock. Such was already the law in some western states, which sometimes even

authorized bonds to thrice the amount of the share capital.[1] The danger of such a provision may be well illustrated by possibilities in financing the practically bankrupt Boston & Maine Railroad in the ensuing year. Despite its desperate condition, already overwhelmed with fixed rentals and interest, this legislation opened the doors to the creation of practically another $50,000,000 of indebtedness on top of all the rest. And yet what else could be done, with its capital stock selling at about a third of its face value? No resource through further stock issues was possible. The wisdom of opening the door to a doubled borrowing capacity seems, nevertheless, open to debate.

Full appreciation of the danger of over-borrowing is evident among more conservative railroads. Large issues of capital stock were put forth at the end of 1909 by the Pennsylvania, New York Central and Chicago & Northwestern. Some of these companies like the New Haven were already waterlogged with bonds, until they had violated the provisions of Massachusetts law aiming to keep funded debt less than share capital. Some were so rapidly expanding their earnings that a broader dividend basis was evidently warranted, or was at all events expedient in order not to excite public comment by high rates of earnings upon the existing capital stock. And pending Federal legislation, contemplating an official oversight and control of all capital issues in future, probably was not without effect. Furthermore, the increasing difficulty of selling long-time bonds at a low rate of interest was influential at least until 1912 in encouraging resort to stock whenever possible. To put forth bonds at high rates, as will shortly appear, operated to depreciate the quotations of older issues.[2] This difficulty of issuing bonds was due partly to general distrust among investors of the railroad situation under rising costs of operation and fixed returns under government regulation;

[1] The new St. Paul refunding mortgage, for example.

[2] P. 187, *infra*.

partly to the existence of high rates for money the world over; and partly to the fact that excessive borrowing by the low-grade railroads was slowly breaking the back of their credit. But on the other hand, in order to sell stock it must generally be put forth above par; and, in addition, in order to make a successful appeal to investors, the prospective dividends must exceed the rate of return from competing bond investments. Altogether, the lesson to be drawn from this unfortunate situation is that the time to limit borrowing must be prior to the first over-balance of indebtedness. A considerable departure from an equivalence of bonds and stock commits a weak company irretrievably to continued loans as a resource. Borrowing as a policy acquires a deadly momentum with the course of time. A downward path leading inevitably toward bankruptcy is apt thus to be entered upon.[1]

The experience both of individual companies and of the American railway net as a whole indicates a sort of financial cycle, conditioned more or less by alternations of prosperity and depression. The first effect of industrial reaction is to curtail the issue of capital stocks. Thereafter the only resource is a continuation of borrowing, following a clearly defined course. Resources in the way of ordinary bonds being in turn exhausted, recourse is had to issues of notes and other secondary obligations; until at last, with yet more protracted depression, the strain from over-weight of fixed charges in proportion to earnings is relieved by the drastic operation of reorganization. Once more the company, having by this process substituted, as we shall see, contingent for fixed charges, enters upon a career of renewed vitality. Such a cycle is, of course, completely traversed only by the weaker railroads, the degree of weakness depending upon the length and acuteness of the period of strain. But the stronger companies manifest to some degree their subjection to the same inevitable

[1] *Cf.* Report of the Committee on Capitalization, National Association of Railway Commissioners, Oct. 13, 1911.

sequence of events. The only safeguard is a rigid adherence at all times to the policy of maintaining a wide factor of safety of fixed charges over and above minimum earning power.

The individual peculiarities of railroads in respect of the proportion of stocks and bonds have been already in a measure considered in relation to the margin of safety.[1] It is obvious that the connection between this margin and the relative amount of indebtedness is direct. Companies like the Erie, the Southern, the Wabash and the "Frisco," with bonded indebtedness ranging sometimes as high as 85 per cent. of the total capital, are obviously less capable of withstanding the strain of reduced earnings during a period of depression. More favorably situated is the group of properties like the Atchison, the Northern Pacific, the Baltimore & Ohio and the Illinois Central with an approximate equivalence of share and loan capital. Strongest of all, of course, are those roads like the Norfolk & Western and the Great Northern which, either by rigid adherence to the policy of raising capital through stock subscriptions or else, like the Pennsylvania and the Union Pacific, by putting forth their bonds whenever necessary with an inviting convertible provision, have succeeded in restraining their funded indebtedness within an even smaller fraction of their outstanding capital. A unique position so far as positive foreclosure is concerned is occupied by the Canadian Pacific which, strictly speaking, has no funded debt at all, unless its debenture stock be so called. As for the Delaware, Lackawanna & Western, it literally has no bonded debt at all, all of its outstanding securities being capital stock. Practically all of its great property, with the exception of a very small issue in 1913, is unmortgaged. This small special investment fund, based upon land sales, constitutes its only departure from an established procedure of raising needed funds through sales of stocks. The contrast is great between such a fortunate condition of affairs and that of the Central of Georgia, with

[1] Chapter II, *supra*.

funded indebtedness more than ten times its capital stock, or, as an extreme instance, the New Orleans, Texas & Mexico with fixed interest-bearing securities totalling 96 per cent. of its entire capitalization.[1] Of course it is always possible that the entire capitalization, stock and bonds together, may be so small as compared with the total assets that a disproportionate amount of bonds need not give rise to an unfavorable interpretation. Such may be the case on the Bangor & Aroostook in 1911 with bonds seven times the amount of the capital stock.[2] But by and large, the principle seems well established that the bonds of a railroad ought not normally to exceed 40 per cent. of its entire capitalization.

Stocks and bonds are variously proportioned in different parts of the country and certain differences are discernible in a large way between larger and smaller roads; the lowest proportion of indebtedness occurs in the eastern states, where bonds on the largest roads form 55 per cent. of the total capitalization. The range is about the same on the principal roads in the West. The exceptionally favorable status of the Great Northern and Union Pacific operated to reduce the average considerably throughout this territory. The heaviest burden of indebtedness rests upon the carriers in the southern states, where outstanding bonds in 1912 aggregated almost two-thirds of the existing capitalization. This is due, of course, to the exceptional status of one or two of the large properties.

[1] "Frisco" Investigation, 1914, 63rd Cong., 2nd sess., Senate Doc. 373, p. 68.

[2] P. 28, *supra*.

CHAPTER IV

RAILROAD SECURITIES: MORTGAGE INDEBTEDNESS, ETC.[1]

THE most striking feature of all funded indebtedness, as contrasted with capital stock, is its high degree of localization. A railway company's share capital represents the equity — that is to say, the surplus value over and above its debts — in all its

[1] The best general references on bonds are as follows: Greene, Corporation Finance, 1902; Rollins, Money and Investments, 1907; Lownhaupt, Investment Bonds, 1908; Lough, Corporation Finance, 1909;

property as a unit. There is no differentiation of real estate from wharves or bridges, rolling stock or marine equipment. The capital stock comprehends the whole within its range. Bonds, on the other hand, are evidences of borrowing upon the security of *particular possessions.* Any specified stretch of mileage, any bridge, ferry or machine shop, even franchises or traffic agreements may be separately mortgaged. And such property, thus covered by a loan, remains the sole security for the payment of interest or discharge of principal at maturity. This is a feature of great importance to investors, seldom appreciated until bankruptcy throws it into strong relief. Such multiplicity of distinct loans, each secured by a separate piece of property, tends to become more and more accentuated with the age of the road, especially in the case of companies with a checkered and precarious past. The funded indebtedness of the Reading company affords a good illustration of such financial complexity carried to its extreme limits. Not alone the financing of its coal properties in addition to its railway lines, but repeated bankruptcy and reorganization over a long period have contributed to this result.[1] On the main line of the Philadelphia & Reading Railroad between Philadelphia and Mount Carbon, for example, there are no fewer than ten distinct bond issues, heaped up one on top of another. These are secured in every conceivable way. They cover different stretches of road, ranging from 54 to 116 miles in length. Some are convertible, some are consolidated, some are improvement bonds. Some are confined to the main line, others spread out over the many branches of the road. They overlap and interlock in the most

Meade, Corporation Finance, 1910; Chamberlain, The Principles of Bond Investment, 1911; Cleveland and Powell, Railroad Finance, 1912; Lyon, Capitalization, 1912. Special references on different types of securities are cited in footnotes. The file of the New York *Commercial and Financial Chronicle*, especially the Investor's Supplements, is invaluable for matters of detail.

[1] The best illustrations of the financial intricacy of such railway bonded indebtedness are afforded by the excellent series of maps in White and Kemble's Atlas of Railway Mortgages.

complicated fashion. They vary in rates of interest, in term, in provisions as to trusteeship and foreclosure. And each new issue or maturing old one is apt to inject new complications all along the line. Matters are both mixed and evanescent. Detailed examination demonstrates more clearly than in any other way this leading financial principle, that mortgage indebtedness of a railway is a matter, not of corporate unity but of particularity to the last degree.

As an extreme instance of the highly specialized character of a bond issue, an experiment upon the St. Louis & San Francisco Railroad in 1904 may be cited. This company had acquired a large part of the capital stock of the Chicago & Eastern Illinois in order to obtain an entrance into Chicago. Funds for this purpose were borrowed upon the stock deposited as collateral, with an agreement to pay 10 per cent. dividends upon it until finally redeemed at $250 in 1942. Meantime the "Frisco" was sadly in need of funds to meet costs of improvement and extension. No tangible property remained unmortgaged. The expedient was therefore adopted of making a traffic contract between two subsidiary roads, the St. Louis, Memphis & Southeastern and the Chicago & Eastern Illinois, on terms peculiarly favorable to the former road, and then to base a mortgage upon this profitable contract. In other words, by this arrangement one controlled road was given an advantage over another; and the profits from this agreement to the former were to be used for interest upon a $16,000,000 bond issue by the "Frisco." Fixed charges of nearly a million dollars were thus created, which of course had to be raised at the expense of the other party to the contract, the Chicago & Eastern Illinois. Such charges became a prior lien upon earnings ahead of the guaranteed dividends upon the capital stock. The lawfulness of this arrangement was called in question in court proceedings. Aside from its legality, however, the case is significant as illustrating the possibilities of highly specialized borrowing in case of need.

The American practice of financing by means of mortgages

of specific property has had important results, especially with rapidly growing systems. For, even in normal cases, the path of localized borrowing, once entered upon, must be pursued to the end. Thus a mortgage upon a hundred-mile operating division or upon a given bridge immediately stands in the way of any first lien upon the property of the company as a whole. These local liens, by taking precedence over any subsequent ones, render their security less sound. Such prior liens must first be extinguished; or else, for that property thus already embarrassed, the succeeding loan becomes a "second mortgage." And yet such practice is inevitable in any expanding system. Any general mortgage upon the entire property immediately becomes a partial or localized one after new construction or consolidation with other properties has taken place. Sakolski gives a good example. The Denver & Rio Grande in 1912 had approximately $34,000,000 of First Mortgage Gold Bonds outstanding. These were true to name when originally issued so far as the then-existing assets of the road were concerned. But with the lapse of time these first mortgage bonds by a process of exclusion came to be a first lien on only 129 miles of main stem, with liens secondary to $82,500,000 of bonds later issued on the entire 2,400 miles in the system. These old first mortgage bonds may conceivably be as well secured as ever, since they really rest upon the general standing of the system as a whole. The point to be noted, however, is the fallacy of the view that a first mortgage on specific property remains so indefinitely without further notice. Simple financing is possible only in these rare instances where all increments of capital for extension or improvement are obtained from new stock issues, or from surplus income reserved from dividends for the purpose. In all other instances, companies are hampered in contracting fresh loans. Previous borrowings may be far less than the value of the property, yet specific first mortgage security for any but particular bits of possession may be hard to find. The cost of such piecemeal finance is surely much enhanced as a result.

It is relatively easy to evade the stipulations of a blanket mortgage as to "after-acquired" property.[1] This is accomplished through the medium of a construction company. Having to build a new division or branch line, the first requisite financially is to be able to offer to investors first mortgage bonds on the new property. Yet old mortgages of the parent company, with their lien on all assets which may subsequently be acquired, stand in the way. The construction company, therefore, first borrows the necessary funds by using the new divisional bonds as collateral. The new line, as it comes into being, thus automatically becomes subject to the first lien of these securities. Then, and not until then, does the parent road, owning all the stock of the new company, vote to transfer the new line to itself, thereby assuming the bonds secured by the new assets. In consequence, the first mortgage bonds of the original company become junior mortgages upon the new road. The disadvantage, of course, is that the new corporation may conceivably be hampered in future borrowing, as it has in reality now subjected itself to a double mortgage indebtedness at one and the same time. As for the original bondholders, their position is strengthened or not according to the value of the new acquisition in contributing to the financial strength of the system as a whole.

Various alluring euphemisms are current in the marketplaces in order to satisfy the deep-rooted conviction in the investing mind that somehow the security of a bond is its lien upon specific things, rather than its claim to the profits derived from their use. A mortgage must be "first" whatever else it is. Lyon has disentangled the ingenious phraseology used on the Erie. Its first five mortgages are openly numbered in order, each of them, nevertheless, being a first lien on something or other. Evidently something novel and taking was now needed for the sixth mortgage. The name changes from the New York & Erie Railroad to the Erie Railway; and the in-

[1] Lyon, Capitalization, p. 120.

strument is denominated a "first consolidated mortgage." It is not, in point of fact, a first lien on anything; but it is the first one to be "consolidated." Then follows a seventh set of securities yclept "first consolidated 4s." This again is literally true only because the preceding consolidated mortgage bore 7 and not 4 per cent. Then, the Railway is transformed into a Railroad; and an eighth general "convertible 4" mortgage appears upon the tapis. As Lyon observes, this might truly have been called the "first general" mortgage, were it not that emphasis is now laid upon the breadth of lien in order, perhaps, to distract attention from the altitude or distance above the ground of the security. It would be interesting in a similar fashion to run over the nomenclature of other roads.

All authorities upon railway finance have emphasized the fallacy of the view that a mortgage is really secured by any specific piece of property. In ordinary real estate or commercial practice this is indeed true. But the theory is entirely inapplicable to a railway. Few of its separate possessions are in and of themselves of a worth equal to the face of the loans based upon them. It seldom happens, even, that the entire property can be sold for enough to satisfy the face of its outstanding obligations. The separate units to a far higher degree have no value except as part of a going concern. No matter how much a bridge or a terminal may have cost, its value depends upon use. And railways are peculiarly economic units from an operating point of view. The right of way is not even fit for farming land when trains cease to run. Rails become scrap iron. Rolling stock and movables alone can be auctioned off piecemeal fashion. The real lien of a railway mortgage, therefore, is not upon property as such, but upon earning power. And earning power is dependent upon such efficient operation as can alone take place when each separate possession can be treated as an integral part of the whole. The inherent weakness in the prevailing theory is revealed whenever the test of bankruptcy is applied.

Foreclosure upon mortgages for many practical reasons is a difficult matter. A considerable time after default is usually allowed before summary action may be taken in any event. And for a long time there was no power by which bondholders could compel the trustee to take action.[1] Sometimes, moreover, even the bondholders themselves could not institute proceedings without the consent of the trustee. Inasmuch as these trustees were either officers of the railroad or representatives of a strongly intrenched management, with interests directly opposed to those of the bondholders, great delay and inconvenience in the satisfaction of claims often resulted. This is equally true of collateral securities, as witness the protracted struggle over the Rock Island bonds after 1913. Even were the trustee favorably disposed, there were often obstacles in the way of foreclosure in the early days, arising from guarantees or prior liens of the state governments. Actual foreclosure might also be rendered impossible, either because of the depreciated condition of the property or because through consolidation it had become too large or unwieldy to sell to advantage *en bloc.* For all the reasons above-mentioned, but few instances are on record in which bondholders have actually succeeded in enforcing their technical right to foreclosure for the satisfaction of their claims. The legal theory proved clearly unworkable in practice. Satisfaction was afforded only through a general agreement which would temporarily at least set aside particular rights and claims for the benefit of the property as a whole. Such an arrangement takes place through a financial operation known as reorganization.

The main purpose served by the right of foreclosure in funded indebtedness is that it may compel a financial reorganization of the company. This is an operation of the utmost delicacy in view of the conflicting interests involved; and the number of these is often very great. In the Union Pacific reorganization of 1895, there were no less than fifteen separate official com-

[1] P. 384, *supra*.

mittees, each representing many separate issues of securities. The Atchison in 1889 had to readjust the interests of forty-one distinct groups of bondholders. Only a few of the senior issues could be satisfied by an outright foreclosure sale. All the rest would have had their equities expunged by such drastic procedure. Their safety lay in continued operation of the property as a whole, with such postponement or proportional reductions of their claims as could be agreed upon among themselves. The former of these two courses is the one usually adopted. New securities, with interest returns, not fixed as before but contingent upon earnings as they appear in future, are commonly exchanged for the old ones on which default has occurred. And it is an odd circumstance, shown by long experience, that the company, having failed because of its overload of capitalization, usually emerges from its reorganization with a larger volume of securities than ever. This is due to the fact that dissenting bondholders can be tempted to acquiesce in the new plan, only through offers of larger par values than before, as an offset for the postponement of their claims on current earnings. As Daggett, the prime authority upon reorganization, aptly observes: "There is a magic in the par value stamped upon a certificate which affords a certain consolation to those from whom sacrifices in interest are demanded. An unimpaired (usually increased) principal, moreover, constitutes a real advantage when the date of maturity arrives." [1]

The right of bondholders to control the policy of a railroad is entirely contingent and negative. It is voiced through a body of limitations upon the freedom of action of the shareholders, and consists usually of provisions for assuming control in case of default upon payment either of principal or interest. Certain mortgages are "closed" by limitation of the total issue. This prevents the shareholders from continuing to borrow further on the same terms. Sometimes the instrument provides that the aggregate indebtedness shall never

[1] Details in Chapter XII, *infra*.

exceed a certain ratio of average earnings. Most common is the provision by which voting power is assumed on failure to fulfil the terms of the agreement. Some bonds, like one of the large issues of the Erie, have proportionately equal voting rights with the stock at all times. The Chicago & Northwestern Sinking Fund Bonds also carry the voting privilege. But, in the main, the responsibility for direction rests solely upon the shareholders unless default occurs.

There are many other practical details as to the issue of bonds which may be merely mentioned in passing. It goes without saying that the price at which such securities may be sold depends upon two factors: first, the amount issued in relation to the property upon which it is based; and secondly, the interest promised in relation to the prevailing market rate. The best test of normality is that the bonds shall be salable at par at the going interest rate. If a higher rate than this is necessary to hold them at their face value, it is an evidence of weakness. And obviously the issue of bonds at a discount is an expensive and wasteful proceeding, even at best.[1] For all such securities at maturity must be paid off at par; and any larger principal sum to be paid at that time than was realized at the date of issue is a positive loss. Sometimes this may be offset by a saving in the current rate of interest paid. Issuance at a discount may at times be necessary in order to strengthen the appeal to investors, who commonly prefer to buy at what seems to offer somewhat of a bargain. But by and large there can be no doubt that the soundest financing is characterized by such adjustment of principal and interest as shall enable emission at somewhere near par value. It should also be understood that the value of a bond depends in a measure upon the length of its life. This follows directly from the fact that the premium or discount at its issue has to be pro-rated over the ensuing period of years. The preference of investors for long-term bonds, which offer

[1] *Cf.* p. 277, *infra.*

some opportunity of a rise in price because of the expected fall in the general rate of interest, is another factor to be reckoned with. It commonly leads to somewhat higher quotations relatively to their interest rate, for long-term securities. Such details, however, appertain to private finance rather than to the public aspects of the question. They are fully described in the standard hand-books on the subject.

Periodic readjustment of the funded indebtedness of a corporation is an essential feature of sound policy. Occasionally, as with some English debentures and certain American trolley lines, perpetual interest-bearing securities are put forth; but American investors usually prefer the prospect of repayment at a time certain. Even this, however, does not imply that railroads contemplate the ultimate extinction of their bonded indebtedness. For this, as was pointed out in our first chapter, would be poor business policy. The trend, in fact, is quite the other way, as we have seen. How then are the two plans of continued borrowing and periodic repayment reconciled with one another? Obviously, as Lyon observes, "by paying the creditor but not the debt." The loans are not amortized, but merely refunded. These two operations of amortization and refunding should be carefully distinguished.

Amortization or debt discharge[1] is usually effected in either one of two ways. The first plan provides for serial maturity. Thus, many equipment bonds and of late some note issues call for a fractional discharge of the debt year by year. There are two serious disadvantages in such practice. One is the impossibility of uniform market quotations, inasmuch as any price other than par would be affected directly by the length of term remaining. And then again, with an even yearly distribution of repayment, the heaviest charge would occur when the corporation could least well bear it.

[1] The necessarily elaborate details are given in the standard textbooks of Cleveland and Powell, Lyon, Chamberlain and Meade.

The second and more common method of providing for the payment of indebtedness is by means of a sinking fund. Assets are set aside beyond the control of the railroad periodically, that they may accumulate at compound interest. Such assets may consist of securities of other corporations, with the attendant disadvantages both of risk and inability to convert into cash on maturity of the outstanding bonds; or else such investment may take place in the bonds of the railroad itself. These, again, may be bought in the open market; or they may be withdrawn by exercise of a reserved right of redemption. Corporation bonds ought in any event to be issued subject to call. Many contingencies may arise in which such a right is important to the railroad, particularly in connection with refunding or reorganization. The merger of New York Central lines in 1913–'14 would have been much simpler had the old Lake Shore and Michigan Central debentures made provision for peremptory redemption. Had not the Union Pacific "participating bonds" with which the Northern Pacific affair was financed in 1901 been callable, a most amazing security they would have been.[1] But investors dislike any uncertainty of term in a bond. This objection is overcome by fixing the redemption price at some figure slightly above par. Amortization, however, so far as the actual principal of the debt is concerned, is not essential to sound finance. The same object may in large measure be attained by regularly setting aside adequate sums for depreciation even at the expense of dividends.[2] The main point is that the debt being practically perpetual through refunding, the assets should not be permitted to diminish in value. The most recent type of amortization has to do, not with discharge of the principal but with extinction of the discount at which the bonds may, perhaps, have been issued. Such amortization is a necessary feature of conservative practice. The best state railroad com-

[1] Pp. 164 and 506, *infra*.

[2] Chesapeake and Ohio short-term notes in 1914 embodied this novel principle.

missions require it in connection with the regulation of security issues.[1] Thus, the New York Public Service Commission in 1912 required a sinking fund in order to take up gradually the discount on bonds issued below par by the Third Avenue Railroad in connection with its reorganization.

The piecemeal character of funded indebtedness results after a period of years in the accumulation of a complicated mass of securities, conflicting and uncertain as to fiscal rights. At the same time these separate issues are coming to maturity successively, so that arrangements must be made from time to time, either for discharging the debt or raising funds by new securities to take the place of the old ones. The financial operation known as refunding obtains in these connections. A sort of fiscal house-cleaning is requisite in order to open the way to safe and consequently advantageous financing in future. New consolidated unifying or general bonds are issued, representing in part, perhaps, the aggregate equity over and above all previous borrowing. Such an issue should necessarily provide funds for retiring all prior liens as they fall due. Theoretically this plan would in time substitute one "blanket" loan for a multiplicity of localized ones. And where it has been issued by a system, which, by reason of consolidation of separate properties, has greatly enhanced revenue power, it would seem to be warranted. But unfortunately in practice many old bondholders may decline to exchange their prior liens; so that the net result is merely the addition of another "junior" security to the long list.[2]

Refunding operations among American railroads, historically, seem to occur more or less in waves of frequency, which are influenced to some degree by movements of the money market. Thus, for example, a notable era of refunding occurred about

[1] Chapter IX, *infra*.

[2] *Cf*. p. 99, *supra*, on preferred stock to call in such reluctant security holders. And also p. 247, chap. VII, *infra*, on the relation between refunding and stock-watering.

1897.[1] The close of the century brought a goodly number of 6, 7 and even 8 per cent. bonds to maturity. In the meantime the prevailing interest rate for such securities had descended to somewhat less than a 4 per cent. rate. A number of large companies were able, therefore, to considerably reduce their fixed charges by substituting new bonds for the older issues at the low rate. Another pronounced concentration of refunding has taken place since 1908. The Burlington in that year authorized a bond issue of $300,000,000. Three years later the Great Northern authorized the largest bond issue on record, to the amount of $600,000,000, and the St. Paul speedily followed suit. Then came the Pennsylvania with yet another authorization of bonds to an indefinite amount depending upon the capital stock. Other large roads, such as the New York Central, the Southern, and the Illinois Central are at work along similar lines. The Baltimore & Ohio announces another such open mortgage, also for $600,000,000, in 1914. Coming, as they do, at a time when no saving of interest may result, the advantage to flow from these refunding operations is confined almost entirely to other considerations.

The element of economy in refunding operations, depends to a large extent upon the state of the money market. A condition of affairs precisely opposite to that of 1897 prevailed in the United States during the second period above-mentioned. The long-continued and steady decline of the rate of interest had given place at last to a much higher basis of return, especially for railway bonds. Interest at the rate of 5 to 6 per cent. had superseded rates of 3½ to 4 per cent. early in the century. This untoward circumstance, due in part to general causes and in part to the peculiarities of the market for railway securities,[2] robbed the railroads of any saving of interest through refunding.

[1] *Com. & Fin. Chron.* LXIV, pp. 492, 499, 540, 1202; XLVII, p. 54; Investor's Supplement, Mar. 1889; *Bradstreets*, 1897, pp. 147, 162, 164, 243, and 1899, p. 260; *London Economist*, 1897, p. 273.

[2] P. 186, *infra*.

In fact, it imposed heavier burdens with each renewal of maturing funded indebtedness. This tight money market, as will appear, has also been responsible in a measure for the widespread resort to short-term notes in place of long-time bonds. It cannot be said, therefore, that a reduction of fixed charges is an essential detail of refunding. The Southern Railway in 1914 was embarrassed by having an old partly-issued mortgage, authorized for the low interest rates prevalent some years earlier. To continue further issues at this rate would necessitate a heavy discount. The proper procedure was to refund the old mortgage by a new one at about the current rate of interest then prevailing. The operation may conduce to economy, or it may work in precisely the opposite direction. The fixed motives for periodic refunding have to do, therefore, not with a saving of interest but rather with considerations of marketability for the bonds.

The most important commercial office of refunding is that it automatically simplifies an over-complex burden of funded obligations. With sometimes as many as eight or ten different mortgages overlying one another, as in the case of the Erie, a confusion of rights and an almost inextricable tangle of conflicting stipulations are apt to come about. The result is that the status of each issue is so ill-defined that considerable risk to the holder may arise in time of trouble. Few investors care to buy bonds under such circumstances. Protracted litigation has not uncommonly resulted. Such a complicated refunding as that of the St. Louis & San Francisco in 1901–'02 operated to replace fifteen different types of bonds by a single unified issue having a clearly defined legal status. Simplification is the first service of refunding. And then, in the second place, a greater marketability of bonds as a result of refunding may arise from the fact that a continuously open market for the new issues is made. A small highly localized and ancient issue of bonds cannot sometimes be bought and sold except at wide fluctuations in price. Quotations are infrequent. On the other

hand, the investment status of the refunding bonds being clear, and the size of the issue being greater, a far freer and more unrestricted course of purchases and sales follows as a matter of course. Where bonds may perhaps be called upon to serve as collateral for loans, such a close and active market may be highly important.

Securities are marketed in either of two ways, which differ fundamentally in risk. They may be issued directly to investors through announced public offerings, in which case the railroad takes its chances both as to price and as to the amount sold. Such is usually the practice among sound companies regarding the issuance of new stock, inasmuch as the dealings are normally privileged and are confined to supposedly loyal shareholders.[1] Most commonly in the case of bonds another practice has come to prevail, which dates from the early '70s. In borrowing, a wider market must be sought; and at the same time the vagaries of the money market and of general investment demand must be taken into account. Sometimes, also, the railroad may be so placed, as in meeting short-term notes or bonds at maturity, that it must with certainty count upon a stated return from the transaction. Under such circumstances it is preferable to dispose of the entire issue to bankers at a price. Where the issue is large, and where appeal to a broad clientage must be made, even the most powerful bankers in their turn prefer to distribute the risk still more. Not wishing to put all their eggs in one basket, they may organize an underwriting syndicate. The entire issue is thus taken at a price which includes an underwriting commission for the service. By this means a successful outcome of the offering is guaranteed. The same end may be attained in another way. The securities may still be issued by the railroad, but underwriters agree to take the residue, not otherwise directly sold, at an agreed figure. The railroad in either event is relieved of all financial

[1] *Cf.* p. 267, *infra.*

risk. Such an assurance is often most convenient. It may be a downright necessity. Both the underwriting price and the commission depend of course, upon the nature of the risk assumed; which in turn is conditioned by the state of investment demand, by the credit of the railroad and by the particular terms of the offering. Naturally the stronger companies, confident of their credit, will avoid the expense of commissions; but even the best of them may at times be compelled to resort to underwriting at whatever cost. Both of the recent panics of 1903 and 1907 afford significant examples of such financial need.

The experience of the Pennsylvania Railroad, one of the strongest companies, during recent years is significant in this connection. Three times within the last decade it has put forth securities through underwriting syndicates.[1] The first experience in 1903 had to do with the issue of stock to shareholders for the purpose of financing the New York terminals. With the market price at $145 it was assumed that $90,000,000 of new shares offered at $120 would surely find a ready sale. On the day of the announcement panic prices prevailed. The railroad had to have the money. It therefore paid 2½ per cent. commission for an underwriting at $120. Inasmuch as the market price of the stock soon dropped temporarily to $112, it is obvious that without this guaranteed sale the railroad would have faced a serious crisis in its affairs. Two years later an offer of $100,000,000 of convertible bonds was again made to stockholders for the same purpose. It was doubtful whether this limited clientage could absorb so large an issue. In the light of the preceding experience, the Pennsylvania paid 2½ per cent. commission for an underwriting. And yet again in 1908, in the wake of the panic of 1907, the same company once more sold mortgage bonds to bankers at 92, a flat sale including the banker's commission, which made it equivalent to an

[1] Testimony of President Rea, September 9, 1913, before Mass. Public Service Commission (pamphlet).

underwriting. As illustrating the risk avoided by means of such transactions, the experience of other strong companies is worth quoting. An underwriting syndicate guaranteed an offering of $75,000,000 of Union Pacific bonds to shareholders in 1907. The quotations promptly dropped far below 90, which was the subscription figure. In consequence all but $2,000,000 of the issue had to be assumed by the underwriters. The Atchison, Topeka & Santa Fé at about the same time attempted to place a considerable issue of bonds with its shareholders without underwriting support. Under the same panic conditions a contemporaneous offering by the Erie was yet more disastrous in its outcome. The underwriting syndicate was compelled, even, to dissolve with three-fourths of its bonds still on hand. The relief to a railroad, concerned not with banking but with transportation, through resort to underwriting is thus apparent. Whether the service rendered is in each case worth the commission depends entirely upon circumstances.[1]

Underwriting of railroad securities is open to certain abuses. The New Haven had an unhappy experience in 1913.[2] This company, then in the throes of financial disorganization, had for several years a contract with J. P. Morgan & Co., whereby in return for a commission of 1½ per cent. this banking house agreed to serve as sole agents of the road in underwriting its bond issues. Offerings of stock or convertible debentures were, however, not included. Following the collapse of the Mellen régime, the New Haven needed $67,000,000 to meet maturing notes and other pressing obligations. The money market in July was so unfavorable that apparently the convertible feature had to be attached even to 6 per cent. bonds

[1] The large direct offering of St. Paul bonds in 1914, saving about 3 per cent. in commissions, even in a tight money market demonstrates the great value of high credit based upon a wide margin of safety.

[2] Mass. Public Service Commission, 99, pp. 4–17. The banker's statement of commissions and underwritings is in *Railway Age Gazette*, LVI, 1913, p. 517.

in order to make them marketable. At all events, whether necessary or not, this was immediately interpreted by the bankers as releasing them from their obligation to support the company, inasmuch as "convertible" bonds were virtually stock. They demanded 2½ per cent. commission to meet this special case. The matter came before the state commission for approval six months later. In the meantime a substantial improvement in market conditions had ensued, which certainly did not seem to warrant a commission of nearly $2,000,000 at the time the application was made. The whole arrangement was characterized by the commission as "not in accord with ethical business standards or sound public policy." [1]

Many unpleasant details of underwriting will be found in the New York investigation of life insurance companies in 1906.[2] Aside from the downright fraud perpetrated upon the policy holders, this investigation marks a turning point in financial experience. For, from this time forward, the unwieldy surpluses of the life insurance companies were no longer subject to speculative call and manipulation. Dishonest commissions to insiders, which, of course, came out of net receipts to the railroads, were much discouraged. Among these life insurance underwritings, one of the Burlington issues may be mentioned in passing. The Equitable company assumed all the risk in this transaction and paid the necessary calls upon it for cash, despite the fact that most of the profits were dispensed to private individuals. The society subsequently bought, in the open market, securities actually underwritten by itself to the extent of more than two million dollars. The Union Pacific syndicate of 1902 under the management of E. H. Harriman, who at the time held this railway in the palm of his hand, provided not only for underwriting the issue but also included an

[1] P. S. C., 165, Dec. 24, 1913.

[2] Joint Committee, etc., to Investigate and Examine into the Business and Affairs of Life Insurance Companies, Albany, 1906; summarized as to railroads in vol. VII, pp. 31, 67, 134, etc.

agreement for a secret pool which should unify control of the stock and withhold it from the market for a period of five years. Happily the publicity attaching to this great investigation cleared the atmosphere. Dishonesty, nevertheless, occasionally comes to light, as in the "Frisco" receivership of 1913.[1] A considerable issue of bonds was sold in Europe on the very eve of bankruptcy, by means of commissions stated to have been as high as 7½ per cent. over and above the ordinary underwriting fee. The credit of American railroads received a severe shock in consequence.

The actual differentiation of funded indebtedness of American railways into various classes of securities is shown by the following table from the official Statistics of Railways for 1913:

Mortgage bonds	$ 8,186,366,000
Income bonds	250,290,000
Plain bonds, debentures, notes, etc.	1,107,076,000
Collateral trust bonds	1,189,636,000
Miscellaneous	82,858,000
Equipment trust bonds	369,285,000
Total	$11,185,511,000

It may next be in order to describe the essential features of some of these types of indebtedness.

The income or preference bond is a form of security devised largely in connection with the widespread reorganizations of 1893–'97. Disappointed bondholders were induced to accept them in exchange for their old securities, the companies meantime being relieved from the burden of fixed charges by the promise to pay interest only on condition that it was earned. It seeks to combine the lien of a mortgage with the contingency of interest payment if earned. It differs thus from preferred stock, in the addition of a prior claim upon assets in case of bankruptcy. Attaining a considerable volume ten years ago, the amount of such issues has not greatly increased in recent

[1] 63rd Cong., 2nd sess., Senate Doc. no. 373, p. 29; or 29 I. C. C. Rep., 139.

years. The only attempt at their revival was in the first unsuccessful Wabash reorganization plan of 1914. As has been observed, the income bond "is an attempt to combine two contradictory commercial principles. . . . Security for both interest and principal is the essence of the creditor's position, while contingency depending upon success is the essence of the stockholder's position." The two interests are incompatible and conflicting. Experience has proved this to be the case.[1] Stockholders, controlling management, have it in their power to devote all surplus earnings to maintenance and improvement, rather than to pay interest upon the bonds. Surplus revenue is thus "ploughed in" until both stock and bonds are able to participate in earnings alike. Meantime, however, the income bondholders have been deprived of revenue. Nor can they ever recoup these losses of interest, as might happen in the case of cumulative preferred stock. Interest lost for one year is gone forever. The tedious suits of the Central of Georgia income bondholders under the Harriman régime, settled in 1910, clearly demonstrate the nature of the difficulty inherent in this class of security. One party wished to upbuild the property by devoting large sums to maintenance, even concealing revenue from its subsidiary concern, the Ocean Steamship Company, and otherwise juggling its accounts. The bondholders demanded proper consideration of their rights and eventually secured it.[2] If, on the other hand, as in the Reading reorganization, this contingency, is guarded against, the trust agreements may be so rigid as to embarrass the management in securing further loans needed for development. Nor has the conferring of voting power upon income bondholders solved

[1] Daggett, Railroad Reorganization, p. 365. The income bonds on the Atchison contributed materially to bring about the second reorganization. P. 338. *Cf.* Chapter XII, *infra.*

[2] Described in detail in *Quarterly Journal of Economics*, XXV, 1911, p. 396 *et seq.* The matter was finally settled in 1911 by agreement of the Illinois Central to retire all three issues at prices to include the withheld interest.

the problem satisfactorily. As a matter of fact, such securities are scarcely distinguishable from preferred stock; and recent financing has tended frankly to recognize that situation.

The close similarity between income bonds and preferred stock is exemplified by a recent contest between shareholders on the St. Joseph & Grand Island.[1] The Union Pacific practically controlled this small company, through ownership mainly of its common stock. It was in position to make good use of its property as a short line between important points. Net earnings of the road had in the past been substantial, sufficient, in fact, to pay the full dividend upon the first preferred shares. And during eight years of control by the Union Pacific, approximately four million dollars of such earnings had apparently been put back into the property in the form of improvements. Inasmuch as the preferred stock was non-cumulative as to dividends, this entire diversion of earnings into betterments entailed an irreparable loss to the holders of this class of stock. On the other hand, it immediately inured to the benefit of the Union Pacific by hastening the time when the common stock, by reason of enhanced earning power, might be placed upon a dividend basis. Meantime, it was alleged, the Union Pacific was quietly picking up the preferred shares at low prices conditioned by the cessation of dividends. Whatever the actual merits of the case, the issue raised as to the differentiation between income and capital, or improvement, account was precisely analogous to that raised by the Central of Georgia income bondholders, referred to in the preceding paragraph.

A debenture is a special variety of bond. In England a form of security known by this appellation is quite common, forming, in fact, approximately one-quarter of the outstanding capitalization of its railroads. But the British debenture is quite different from our own, although one or two companies, notably the Chicago Great Western, have adopted the foreign

[1] *The U. S. Investor* for January 21, 1911, p. 115, reprints the statement of the aggrieved preferred shareholders.

model. The English debenture is merely a form of stock without voting power but with absolute preference as to dividend. In the United States, on the other hand, a debenture is a bond; but it has no specific mortgage lien, and hence is without foreclosure power. In other words it is merely a promise to pay, depending for security upon the general credit of the road. Yet the holder of a debenture is often somewhat more protected than the ordinary note holder or general creditor by reason of special stipulations in his behalf. The similarity to the income bond is close, in that the interest on debentures is "payable if earned" and not otherwise. Being thus, in form at least, somewhat less secure than an ordinary mortgage bond, other attractive features, such as convertibility into stock, protection against subsequent bond issues without participation rights or a higher rate of interest, are necessary in order to secure successful flotation. Thus the St. Paul debentures of 1910 were marketed in France with the provision that the capital stock of the Puget Sound extension was not to be sold while these securities were outstanding.[1] And the Atchison serial debentures of 1902, although unsecured, courted popular favor by a proviso that one-twelfth of them should be retired annually out of earnings.

Debentures, strangely enough, are a sign either of financial weakness or of markedly high credit, according to circumstances. In the former case assets may already be mortgaged up to the limit, inasmuch as liens beyond the second and third degree on the same property are not marketable. The Rock Island in 1914, according to its management, had exhausted all of its borrowing resources "save notes or debentures." Or, on the other hand, the strength of the company may be so great that it need not offer the security of a positive mortgage. This may be a matter of prime importance. In either case debentures may be issued irrespective of the amount or nature of the prior liens already outstanding. Moreover, debentures

[1] *Cf.* pp. 23, *supra.*

may be retired on short notice without the formality requisite in the case of bonds. Some strong companies, like the New York Central, the Atchison and others, have largely relied upon such securities in recent years. The latter, in fact, issued one of the first American debentures as early as 1884. The New Haven has also repeatedly issued debentures, one alleged reason being the conflicting laws of the New England states, which stood in the way of a single uniform mortgage. Certainly it had little or no actual mortgage indebtedness on its own main stem carrying the right of foreclosure; even although by 1913 financing by loans overshot the danger point. This feature is significant under the existing prostration of the carriers in this part of the country. On the other hand in the case of weak companies like the Wabash, large issues of debentures have been at once a source of disappointment to investors and an embarrassment in the financing of the road itself. For the stipulations as to future loans, necessary to attract popular favor, proved to be quite as effectually a bar to subsequent borrowing as if ordinary mortgages had been heaped one upon the other. So unwieldy in fact were the Wabash income debentures, created in connection with its earlier reorganization, that one of the first steps in an attempted rescue from bankruptcy, was their practical elimination through conversion in 1906–'10.

Collateral trust bonds,[1] so-called, constitute by far the most important type of funded indebtedness next to the ordinary simple mortgage. Approximately one-tenth of the total borrowings of the railways of the United States in 1913 assumed this form. This is the more notable, inasmuch as this huge volume of more than one billion dollars of collateral trust loans was in large measure the creation of the decade after 1900. It is indubitable that without this form of bond relatively few

[1] The best single reference is *Quarterly Journal of Economics*, XX, 1906, pp. 445–467.

of the great railway consolidations could have taken place. Three great financial expedients characterized this notable period: the community-of-interest idea, the holding company and the device of the collateral trust bond. The last two of these are indissolubly connected. The holding company as a means of effecting combination was directly dependent upon the use of the collateral trust bond.[1]

A collateral trust bond differs from the ordinary bond in that it is a mortgage secured, not by any real property or franchise but by the deposit of stocks or bonds of other companies with a designated trustee. Its lien upon actual property therefore is not immediate but indirect, through the medium of such other securities as are thus deposited as collateral. The collateral trust bond, furthermore, depends for its interest upon such revenues as may accrue from these stock or bond holdings, together with such additional guarantee as the issuing company may find it expedient to give. A concrete illustration will make the practice clear.[2] In 1902, 306,000 shares of the Louisville & Nashville out of a total of 600,000 shares, as a result of an untoward speculative raid, were turned over to a much smaller company, the Atlantic Coast Line Railroad. This latter road, thus assuming control by ownership of a majority of the stock, paid for the purchase by an issue of $35,000,000 of its own collateral trust bonds, together with certain other considerations in cash and securities. These Atlantic Coast Line bonds bore 4 per cent. interest and constituted a mortgage upon the Louisville & Nashville shares. These shares were in fact deposited with a trustee for that purpose. It is evident that the Atlantic Coast Line independently could never have issued bonds to this large amount, it being nearly three times the entire capital stock ($12,600,000) of the company. But the bonds, calling for an interest charge of $1,400,000 annually, were to be supported by the dividends of $1,530,000 upon the purchased stock. It was anticipated,

[1] *Cf.* chap. XIII, *infra*. [2] P. 219, *infra*.

of course, that the enhanced earning power of the conjoined properties would still further guarantee the success of the issue. At the outset this plan, including the additional consideration given, netted a heavy loss to the issuing company; but in the course of a few years, increased dividends upon the deposited stock brought about a large direct profit, aside from the operating advantages.

The first use of the collateral trust bond dates from the early history of the Union Pacific. In 1873 Congress, in order to protect its heavy loans to the company, prohibited by law any further increase of the bonded indebtedness of the road subject to its lien. This greatly embarrassed all projects for expansion through construction of either branch lines or extensions. To finance these by means of small independent companies was out of the question. Small corporations could not successfully sell bonds, nor would it be wise to lose control of them; consequently the Union Pacific advanced funds for construction, taking the stocks and bonds of the new companies in payment. Its treasury was then reimbursed by the issuance of the 6 per cent. collateral trust bonds of 1879, secured by the deposit of these securities. Thus the needed extensions were built without violating the letter of the Federal prohibition.

The foregoing illustration indicates the earliest and, for a long time, the most important reason for the resort to collateral trust bonds. Indeed, in a country divided into so many independent states, it is difficult to see how much of our construction could have been effected otherwise. Most charters issued by states authorize construction only within certain strictly defined territory. Subsequent extensions can be legally made only by means of new charters or amendment of the old one. The latter expedient may require modification of original liberal charter rights. It is safer to organize new and independent corporations. Moreover, of course, construction beyond state boundaries must of itself entail the formation of a separate

company with a charter of its own. None of these new and subsidiary companies can be successfully financed by themselves. It is more profitable that the necessary funds should be procured by the parent road. Its bonds or stocks will sell to far better advantage in distant markets. The undoubted advantages in this plan have led to its adoption by most of the large companies, notably the Union Pacific, Atchison, Burlington, and Rock Island roads in the West; and the Louisville & Nashville and Illinois Central in the South.

In recent years, particularly since the resumption of general prosperity in 1897, the collateral trust bond has been largely utilized as a means for financing the consolidation of railways. To the holding company as a mode of combination, it is in fact indispensable. The New York Central & Hudson River after 1898 acquired control of the Michigan Central and Lake Shore by the exchange of its own collateral trust bonds for the stocks of these roads deposited as collateral. Among many similar operations within the last decade, one of the most prominent was the joint purchase of the Burlington road in 1901, by the Great Northern and Northern Pacific companies. In this case the bonds became a joint obligation of both companies, being secured by the deposit of their Burlington stock as collateral. The variations of procedure are many. Control of another road may first be acquired by purchase for cash, with subsequent reimbursement through mortgaging the securities purchased. This was a common mode prior to 1900; but was obviously open only to strong companies with ample cash resources. Another plan was the immediate exchange of the new collateral trust bonds for the desired stocks or bonds to be acquired. This method has been largely utilized in building up the Rock Island system. Or a third method may be adopted; namely, first to procure the necessary funds by sale of the collateral trust bonds, and then with the proceeds engage in the necessary business.[1]

[1] *Quarterly Journal of Economics*, vol. XX, 1906, pp. 445–467.

The collateral trust bond, as used in the acquisition of securities of other companies, is precisely analogous to "margin" operations by individuals upon the stock exchanges. Its advantages and dangers to individuals and corporations are precisely alike. There is no difference whatever in principle. Payment in full in cash for purchases of securities ties up a large amount of capital indefinitely. Both principal and interest are lost, being offset only by the income derived from the stocks or bonds acquired. But if such operations can be based upon credit instead of cash, an indefinite expansion of the scale of operations becomes possible. The property acquired, as Mitchell observes, pays its own purchase price. It is a great economizer of funds. Thus E. H. Harriman in 1896 obtained control of $10,000,000 par value of Illinois Central stock with an outlay of less than $1,500,000 of Union Pacific cash. The stock, paying 5 per cent. dividends, was bought by an issue of bonds bearing only 4 per cent. In other words, bonds could be sold on sufficiently good terms to pay even the necessary premiums on the stock, and entail little if any burden upon the parent company. The manner in which the segregation of the Maine Central from the Boston & Maine was financed in 1914 shows the facility with which a collateral trust operation may finance itself, — a fiscal creature swallowing its own tail for sustenance in fact.[1] Desiring to prevent its control from going to unfriendly interests, the Maine Central bought back 159,601 shares of its *own* stock; and having no available funds, paid for it by means of collateral trust notes, secured by the deposit of the stock acquired. Could anything be simpler! Nothing, perhaps, except the issuance by the Cincinnati, Hamilton & Dayton in 1904 of $15,000,000 of collateral gold notes, based in part upon the deposit of $7,750,000 of its *own* capital stock as security.[2]

As a means of railway consolidation, the collateral trust bond has certain well-defined merits. The foremost one is its elasticity. Whereas actual mergers and even long term

[1] Pp. 166 and 170, *infra*. [2] *Cf.* p. 214, *infra*.

leases are practically indissoluble, a control by means of stock ownership, financed through an issue of collateral trust bonds, may be readily enough terminated by selling the stock and retiring the bonds with the proceeds. Thus, when in 1909 the Rock Island system found the St. Louis & San Francisco road too heavy a financial burden, the connection was severed by simply retiring its collateral trust bonds through the sale of "Frisco" stock. This stock was the only tie between the two roads. Sometimes, however, with additional complications in the nature of guaranteed dividends, leases and preferred shares, as in the Union Pacific about 1908, segregation of assets becomes extremely difficult.[1] Southern Pacific stock could not be distributed as a bonus to Union Pacific shareholders without substituting for this stock some other security — collateral or cash — inasmuch as it was held as security for Oregon Short Line bonds. This predicament emphasizes the need of reserving the right to substitute collateral; to the end that whenever conditions warrant, securities may be taken out from under the trust deed and sold or otherwise used. In the above-mentioned case, could Central Pacific stock have been substituted as collateral for the Southern Pacific shares, a marked simplification of structure would have been the result. On the other hand, the collateral trust bond may readily become a source of danger where it imposes a heavy burden of fixed charges upon a company. Most of the early issues of this sort down to 1901 were based upon the deposit of bonds of subsidiary companies. The New York Central-Lake Shore collateral trust bonds in 1898 and the Burlington joint 4s, three years later, started the fashion of issuing such securities not upon bonds as collateral but upon deposited stocks. This change was undoubtedly due to a shift of the main purpose for which such bonds were put forth. Instead of being used for the extension of existing lines into new territory, they were used for purposes of consolidation. Fixed charges were thus created

[1] *Cf.* Chap. XVII, *infra*, for account of the plan subsequently adopted.

for the parent roads, which were supported not by assured, but only by contingent income — income contingent, that is to say, upon its being earned by the companies whose stocks were deposited.

The most serious danger lurking in the collateral trust bond, however, is its invitation to corporate speculation and over-extension of credit. The ease with which a strong company may engage in stock market operations on a large scale by such means is most clearly demonstrated by the experience of the Union Pacific road between 1901 and the death of Mr. Harriman in 1909. The cost of its investment in Northern Pacific stock, subsequently converted into Northern Securities Company's stock, was about $76,900,000. This had been financed by means of collateral trust bonds, for the most part based upon operations of the Southern Pacific road, also within its control. The profit in hand and on paper when these operations were closed out amounted to about $82,900,000 or 113 per cent. These profits, it will be noted, as described more in detail elsewhere,[1] were promptly reinvested in stocks of other roads all over the country. But the new purchases were made at the high prices prevailing before the panic of 1907; and, although largely increasing its revenue, could not have been closed out without losses quite commensurate with the previous gains. But, in the latter case, it may be urged that the stocks acquired were *bona fide* investments, paid for in full from cash in hand. On the other hand, the large sums due the Union Pacific by the Oregon Short Line, which was the cat's-paw in these speculative plunges, as appeared in 1910, shows how burdensome was the diversion of funds from their legitimate uses for operating development into the channels of outside investment.

The stock market operations of the trunk lines in their acquisition of the hard and soft coal lines in 1900–'06 affords yet further illustration of the amazing development of credit

[1] Chapter XV, *infra*.

which is possible with the use of collateral trust bonds. The following table shows the amount of these purchases and the paper profits at prices prevalent in August, 1905:

	Amount purchased	Profit [1]
The Pennsylvania group:		
Baltimore & Ohio com.	$30,293,300	$13,500,000
Baltimore & Ohio pfd.	21,480,000	4,200,000
Chesapeake & Ohio	16,000,000	6,400,000
Central of N. J.	14,500,000	8,400,000
Norfolk & Western	32,000,000	16,500,000
Reading com.	13,952,000	6,000,000
Reading 1st pfd.	6,065,000	300,000
Reading 2nd pfd.	14,265,000	3,800,000
The Vanderbilt group:		
Lake Shore	50,000,000	50,000,000
Reading com.	13,952,000	6,000,000
Reading 1st pfd.	6,065,000	300,000
Reading 3rd pfd.	14,265,000	3,800,000
Big Four	11,224,000	4,400,000
Lehigh Valley	3,200,000	2,500,000
Michigan Central	20,000,000	10,000,000
Chesapeake & Ohio	16,000,000	6,400,000
Miscellaneous:		
Ontario & Western	30,000,000	3,000,000
Soo Line com.	7,066,000	9,500,000
Soo Line pfd.	3,533,000	5,000,000

These large sums were paper profits entirely. Any attempt to liquidate such holdings on any large scale would obviously have led to rapidly crumbling quotations. Yet when in 1906 some of these holdings were sold out, the actual profits were large. The Lake Shore was credited with having made an average profit of $30 on about 100,000 shares of Reading stock. On the Chesapeake & Ohio the Pennsylvania Railroad cleared possibly $4,500,000. Its Baltimore & Ohio investment, sold to the Union Pacific in 1906, assuredly yielded large gains. These profits undoubtedly went into the great projects for improvement about New York. But suppose that instead of

[1] Estimated.

profit, there had been heavy losses, as in fact there were on paper in the case of many purchases made prior to the break of 1907. When the Reading was practically taken out of the market in 1903, its common stock sold for nearly \$70 per share (par value \$50). Within a year the price fell to \$37. Similarly the Union Pacific reinvestments in 1906 of proceeds of its Northern Pacific operations, within the next two years registered a loss on paper of many million dollars. Nor can there be question that, as in the case of the New York Central, many of these companies would have been better off, had they devoted these huge sums, tied up in stock market operations, to the prosecution of their legitimate function of transportation. The New York Central certainly, had it had the undivided support of the Lake Shore, would not have been compelled to pile up still higher the burden of its capitalization in order to complete its terminal improvements at New York. Not all of these operations were financed by the use of collateral trust bonds. But even if not, capital had to be raised somehow to pay for these purchases. And hardly ever, when the securities have been resold, have the proceeds been used to reduce the capitalization to its former level. The entire development of these years represents a most dangerous tendency. And for its first suggestion as to ways and means, the collateral trust bond must be held largely accountable. Merely because the outcome of these purchases by means of borrowed money, chanced to have a favorable issue, due to a rapidly rising level of prices, does not in the least detract from the force of the criticism. The collapse of the Rock Island in 1913–'14, wherein such outside speculations turned out badly, is a case in point, as we shall soon see.

Certain other uses of the collateral trust plan may be mentioned. It is commonly employed in the funding of troublesome floating debts. The securities are usually issued for a short term and are rather of the nature of notes based upon specific collateral. Of far greater general importance is its

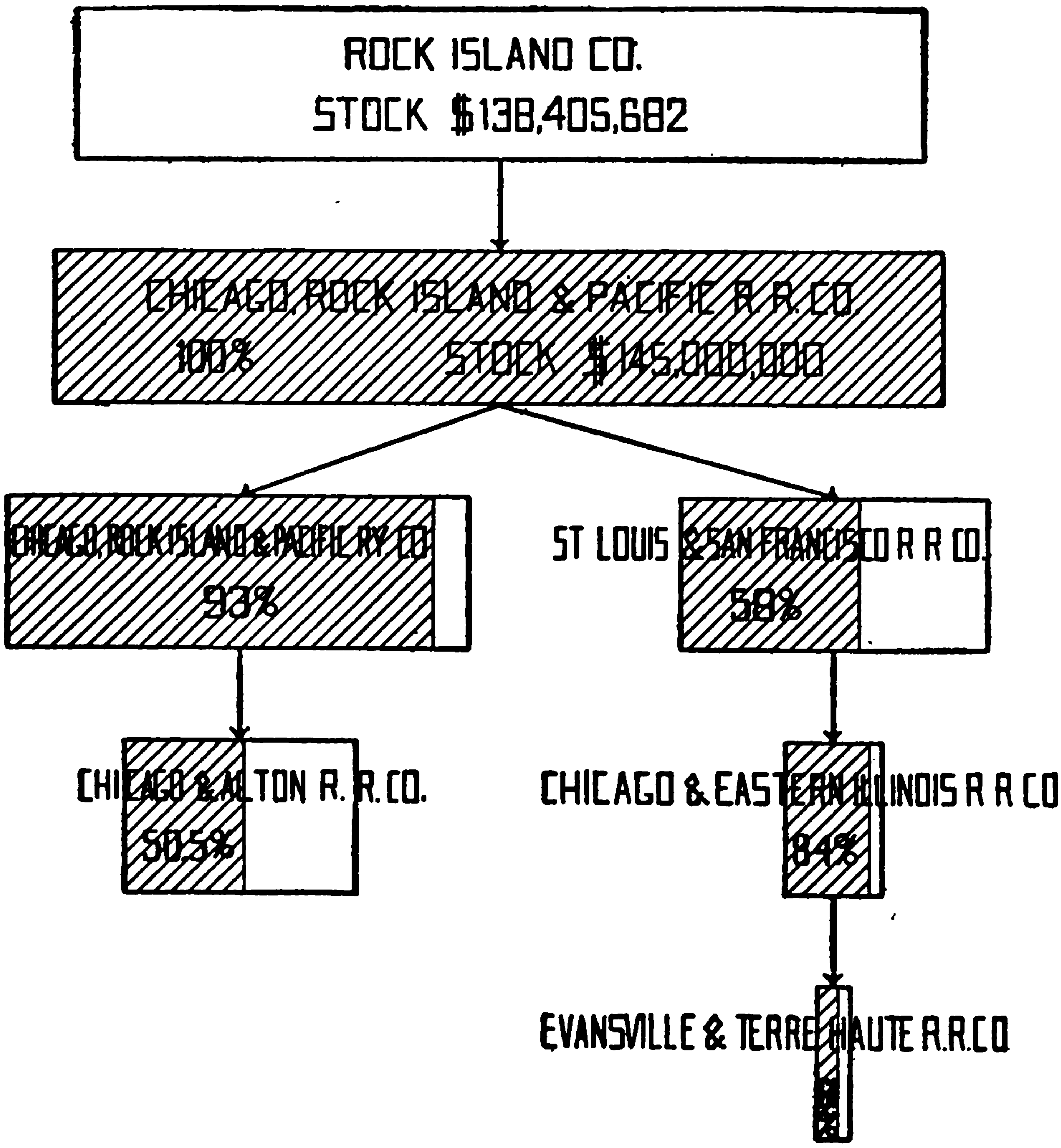
use in making effective appeal to certain classes of investors. Many conservative people who would never dream of purchasing railway stocks, will trustingly invest in a collateral trust bond whose sole security is the deposit of such stocks. This matter came prominently to the fore in connection with the New York Life Insurance Investigation of 1905. As a result of this examination, the insurance companies were prohibited from investing in stocks of railway or other corporations. The laws of foreign countries also restrict the investments of insurance companies in much the same way. Yet the reserves of these companies may, and undoubtedly do, contain large amounts of collateral trust bonds, based upon stocks as collateral. The mere substitution of a bond for a stock by this means evidently largely widens the market for railway securities.

Two distinct elements of danger in collateral trust bonds to conservative investors deserve mention, in addition to those already outlined. There is the possibility, in the first place, of unsuspected shrinkage in the value of the underlying railway property, whereby the equitable interest of the collateral bondholders is lessened; and, secondly, there is risk of impairment of the collateral through downright manipulation of the underlying securities. Both dangers could scarcely be better demonstrated than in connection with the disintegration of the Rock Island system in recent years. The details of inverted pyramiding of securities are elsewhere given.[1] Essentially, the financial structure was this: Control of the operating company, known as the Chicago Rock Island & Pacific *Railway*, was purchased in 1902 by a holding corporation, the Chicago Rock Island & Pacific *Railroad*, through exchange of the latter's collateral trust 4 per cent. bonds for the *Railway* stock. This stock was deposited as security for the bonds. Above the *Railroad* there was set up yet a second holding corporation, the Rock Island Company, where preferred shareholders exercised

[1] *Cf.* pp. 205, 236, 394, and 524, *infra.*

control over the entire system. At this writing, the true condition has not probably been revealed in all its ugly nakedness. But the two points of danger to investors above-mentioned are

INTERCORPORATE RELATIONSHIP OF THE ROCK ISLAND SYSTEM



Size of rectangles indicates relative amounts of capital stock outstanding. Cross-hatching shows per cent of capital stock owned by controlling company.

already clearly established. Shrinkage in earning power of the actual railway property had proceeded so far by 1914 that a suspension of dividends was necessary. This immediately induced a protracted struggle on the part of the holders of the

Railroad collateral trust 4s to gain possession of the underlying security for their bonds, — that is to say, the capital stock of the operating *Railway*. In so doing they were obliged to contend with the owners of the capital stock of the Rock Island Company, — the capstone of the pyramid — whose stock would be wiped out through loss of the *Railway*. The indenture under which the collateral trust 4s were issued was far from being a simple document reciting that in the event of default the bondholders should become owners of the *Railway* stock, to do with it as they pleased. The Rock Island Company preferred shareholders, that is to say those in control of the entire system, demanded an assessment upon all interested parties, including the collateral trust bondholders, in order to rehabilitate the physical plant. It is evident already that protracted litigation will be necessary; and that, even in the event of successful foreclosure, the collateral trust bondholders will receive back a vastly different property from the one which was originally pledged as collateral for their bonds.

Impairment of the worth of collateral through manipulation of accounts or securities — the second danger to holders of bonds of this type — followed in the Rock Island system in the wake of the unfortunate purchase of the "Frisco" railway. This particular experiment in collateral trust finance, unlike the Union Pacific experience with the Northern Pacific, turned out badly. The *Railroad* company had purchased "Frisco" stock to the amount of $28,900,000 in 1902; but inasmuch as the road proved an encumbrance rather than a profitable investment, the shares were resold in 1909 at a loss of approximately $7,000,000. This loss arose through the necessity of retiring about $7,000,000 of the collateral trust bonds based upon the "Frisco" stock, as a condition precedent to the sale. In other words it cost $6,945,000 more than they realized at issue, to buy back enough of these bonds to release the "Frisco" stock. Nor is this the whole story. This loss properly belonged on the shoulders of the preferred stockholders of the Rock Island

Company; inasmuch as they possessed the sole voting power and control of the parent holding corporation and thereby of all the constituent roads in the system. They were responsible for the transaction. But this loss was apparently passed along to the security holders of the operating *Railway* company, that is to say ultimately to the owners of the *Railroad* collateral trust 4 per cent. bonds. For the old *Railway* company — the only physical basis of earnings — was made to sell a block of its own bonds to the public and to advance the proceeds thereof to the *Railroad*, taking in exchange $7,500,000 of that company's debentures. What marvellous involution! What lifting of one's self by one's bootstraps, — or rather by those of others! The *Railroad* company thereafter was caused to pay interest to the *Railway* company on these debenture bonds, from the very dividends received on *Railway* company stock; and the holders of the *Railroad* collateral trust 4s had their security, to wit the *Railway* stock, lessened by the amount of this debenture, which was an unsecured loan. A pretty tangle this to be straightened out in the process of reorganization! And small comfort was there in the priceless possession, according to the balance sheet of the old *Railway* company for 1913, of $5,447,000 in bonds of the Toledo, St. Louis & Western as a relic of the other ill-advised plunge in Alton.[1]

The investor's risk in holding collateral trust bonds appears in another case. The Kansas City, Mexico & Orient Railway, a highly speculative venture now in receivership,[2] offered at one time $10,000,000 in first mortgage 4 per cent. bonds for sale. These for a time paid interest, but the market for them was merely nominal and at a large discount. Therefore, in order to make a more attractive issue, these hitherto unsalable bonds were deposited, together with a choice assortment of stocks of one kind and another, as collateral for $10,000,000 of "First Mortgage Collateral Trust 5s." In brief, because a 4 per cent. first morgtage bond would not sell, a 5 per cent.

[1] P. 531, *infra*. [2] P. 16, *supra*.

issue was based upon it with a stronger appeal to speculative buyers from bonuses of El Oro & Rio Grande Development Company stock. If the bonds sold, the Development company would begin with a cash working capital of $200,000. No wonder, as the New York *Evening Post* observed, the "Money Trust" is jealous.

The use of collateral trust bonds in making a market for securities is illustrated in another connection by the Railroad Securities Commission of 1910. The state of Texas rigidly limits the capitalization of railroads within its borders. This legislation has in practice rendered it extremely difficult to raise capital for the improvement of Texas roads by direct sale of their securities; for, if already capitalized out of proportion to official valuation, no further issues are permitted. Under such circumstances companies organized in other states, and owning Texas lines in need of capital for efficient operation, make use of a simple collateral device. Instead of issuing Texas railroad securities, they pledge the credit of the parent company and put into a collateral trust any hitherto unpledged securities of these Texas roads. Bonds are thus issued under the authority of another state, although the proceeds are to be spent in Texas. One further feature of collateral trust issues as affecting financial conditions of the market is important. A large issue of such bonds may so far glut the market that even the strongest companies cannot dispose to advantage of high-grade securities. Thus the Pennsylvania endeavored for several years to sell its Baltimore & Ohio stock, but was prevented therefrom by the flood of collateral trust issues competing for favor.[1]

The convertible bond, so-called, has come into extraordinary favor since 1901. The aggregate of live convertible issues now authorized has attained the large sum of almost a billion

[1] Testimony of President Rea, Mass. Public Service Commission, September 9, 1913. Also p. 483, *infra*.

and a half dollars.[1] Such a bond, as its name implies, may under a specific contract as to time and ratio be exchanged for capital stock. Securities of this character combine the double assurance of a first lien on assets at the start, and participation in growing profits, when success of the enterprise has become certain. Such bonds were common in the highly speculative period after the Civil War. The St. Paul 7s of 1873 are a good example. The most widely known convertibles, however, were those of the Erie road. Daniel Drew and "Jim" Fisk used them to good effect in their classic contests with Commodore Vanderbilt for control of that property. They were a necessary adjunct to the reckless stock market speculation of the period. The plan was simple. Having quietly secured authorization by stockholders for a large issue of convertible bonds, Drew would create the appearance of a shortage in the supply of outstanding Erie stock. Other speculators having sold short would cover at high prices, Drew supplying them by selling shares which he did not yet possess, but which were borrowed for the purpose. And then, when Vanderbilt who was seeking control of Erie, and all other dealers who were covering their commitments at high prices based upon a calculated shortage, had become loaded up with agreements to buy, Drew would convert his bonds into stock, flood the market, break the price and close out all his contracts for delivery at large profits. The scandals of the time so eloquently described by Charles Francis Adams in his Chapters of Erie,[2] gave a bad repute to this class of security, which lasted for many years.

Revival of interest in convertible bonds seems commonly nowadays to be associated with periods of financial distress. They are not, however, storm signals like short-time note issues, soon to be described. But they are apt to be resorted to at a time when an added fillip to investment in railways seems to be

[1] Montgomery Rollins, *Annals Amer. Acad. Pol. Science*, vol. XXXV, 1910, pp. 572–592. His Convertible Securities, 1909, contains details of all issues, conversion tables, etc.

[2] Reprinted in Ripley, Railway Problems, chap I.

needed. In the dull period of 1893 several strong companies made use of them. Some of these were really expedients for selling new stock at par for improvements, although the old shares were being quoted at a discount. In other words, the combined security of a bond with a fixed rate of return, and of the speculative chance of added profit upon conversion when the stock rose above par, enabled the company to secure new capital at more favorable rates than it otherwise could have done.

The next period of activity in convertible bonds was associated with the great consolidations about 1901. The most notable instance was the $100,000,000 issue of the Union Pacific in order to finance the purchase of the Southern and Northern Pacific. Other important companies like the Pennsylvania and the Baltimore & Ohio resorted to the same device in 1902. The prime motive in adding the conversion privilege at this time seems to have been to overcome the prejudice against bonds not secured by a direct lien upon real property, but upon securities of other roads to be purchased with the proceeds. In other words, many of the issues of this period of active consolidation were collateral trust bonds, elsewhere described. As such they needed some privilege, or opportunity for peculiar profit, in order to dispose of them on favorable terms.

Subsequent appearances of convertible bonds on a large scale have been principally associated with the two financial depressions of 1903 and 1907. At both times large companies like the Atchison and the New Haven have seen fit to add the conversion privilege to their new bonds, in order to make effective appeal to investors. Where weaker roads have been forced to resort to short-time notes, the stronger ones have used convertible bonds. At other times, as in 1905, the issues of bonds of this class by roads like the Erie, the Pennsylvania, the New Haven and the Atchison, have assumed large proportions. There can be little doubt that bonds of this sort have

steadily risen in general favor in recent years. During the period of high money rates and sluggish investment demand about 1913, practically all the bond issues, railroad or industrial, carried the conversion privilege.

There appear to be no less than four substantial reasons for the popularity of the conversion privilege. The most important one is the successful appeal which it makes to the investing public. To assured interest return, it adds a speculative chance of participating in future profits as they accrue. That was the main reason for its extended use in the early days of railway construction. And since 1900, with the active competition of industrial and mining securities with railway bonds, it has been found by experience that the addition of the right of conversion is necessary to insure a successful flotation. A second factor is found in the nature of the security behind many of these new convertible bonds. The majority of them are either debentures — that is to say, carrying no prior lien on specific assets, but rather a general obligation of the company as a going concern,—or else collateral trust bonds, based upon the deposit of other securities of controlled roads. The more or less imperfect character of the security in either case renders the conversion right necessary as an offset. In the third place, the reason which made "convertibles" simply invaluable to Daniel Drew in the '70s, is still not without significance. In several notable cases, the control of railways by particular financial interests has been menaced or lost by unexpected operations upon the stock exchange. The Louisville & Nashville in 1902 was ruthlessly torn from the Belmonts by a clever ruse incident to the issue of a large amount of new stock. The Illinois Central was likewise deprived of its long-standing independence despite a substantial concentrated minority control. And the contest for the Northern Pacific, culminating on May 9, 1901, clearly demonstrated the need for ownership of a positive majority of all classes of outstanding share capital, in order to assure control. The final victory of the Morgan-

Hill party over Union Pacific interests was determined by its power over retirement of the large issue of preferred stock. Yet the law does not contemplate control of competing lines by actual majority ownership with favor. A device whereby control may be practically assured, as in the Pennsylvania dominance of outlying properties, without an actual majority ownership of shares, is consequently welcome. A large issue of convertible bonds may aid in the solution of such a problem. It constitutes a reserve which may be drawn upon by the existing management in case more stock is needed in an emergency. This feature has undoubtedly in several cases led to the addition of the conversion privilege to new bond issues.

The final and most fundamental advantage of convertibility as applied to funded debt — an advantage bound to make it of continuing importance in future — is that it affords opportunity for gradually transforming fixed charges into contingent ones. Funds raised by the sale of ordinary bonds permanently saddle a heavy burden of prior liens upon earnings ahead of the capital stock. These charges must be paid whether earned or not. This was the great lesson enforced by the bankruptcies of 1894. Yet on the other hand, of course, the security is so great that capital may be obtained at low rates of return. This latter advantage would not follow an issue of new stock to finance improvements, particularly in the case of companies whose share capital stands at a premium and whose rate of dividends is high. When the St. Paul in 1906 financed its Pacific coast extension by an issue of new 7 per cent. stock at par, it was virtually paying a higher rate for the capital needed than the new enterprise could possibly earn for some time. As a device for distributing surplus earnings of the parent company, it might be most effective. But regarded as a means of financing a new line, it was certainly expensive.

The convertible bond seems to answer the purposes of a company thus situated more satisfactorily than either straight

bonds or stocks. For it enables the new capital for the incipient and uncertain stages of the enterprise to be had on a funded-obligation basis. And thereafter, as the earning power of the extension emerges, the fixed charges become transformed into contingent ones, with the progress of conversion of bonds into stock. And this process of conversion is automatic in its action. The plan in short is that of an automatic sinking fund. As profits grow, the price of the capital stock rises, until on passing the price at which exchange may be effected, the profit in conversion leads to the freer exercise of the privilege. The ultimate outcome is a corporation freed of the incubus of a heavy funded debt, yet with net earnings demonstrably sufficient to support its capital stock. The prime instance of the successful application of such methods to a great enterprise is the financing by the Pennsylvania Railroad of its great New York terminals in 1902 and 1905. The expedients of the New York Central in raising funds for similar purposes by means of stock and debentures seem clumsy and expensive by contrast. The great strength of the Union Pacific under the Harriman régime, viz., its low percentage of fixed charges to net earnings despite extensive borrowings for development and speculative purposes, has resulted largely from its successful use of convertible bonds as a means of raising new capital. The Norfolk & Western and the Atchison afford yet other examples of successful borrowing of this sort.

Certain disadvantages of convertible bonds remain to be mentioned. Common stockholders not infrequently regard them as a violation of their rights. In a sense the convertible bondholder is a shareholder with a preference both as to earnings and lien on assets, whose rights are intervened between the ordinary stockholder and his property. The ordinary bondholder is not thus regarded as an intruder, his interest rate being both moderate and fixed. Strenuous protest from shareholders is not unlikely to arise, as in the case of the Atchison issue of 1905. Furthermore, it sometimes happens that

convertible bonds, instead of being automatically eliminated by rising quotations for the stock to the conversion point, may remain outstanding as bonds for a long period and may block the way to further borrowing on favorable terms. And yet, while outstanding as bonds, they may be entitled to all the privileges of the stock. This embarrassment occurred in the Pennsylvania financing of 1909. With large amounts of unconverted bonds outstanding, further needs of the company were met by putting forth new stock, the right to subscribe to it being confined to shareholders. This addition of new stock obviously withheld the shares from rising in price to the conversion point, and still further postponed the time at which the convertible bondholder might with profit exercise his privilege. This difficulty was met by the New Haven in a similar case of about the same date, by extending the privilege of subscription to new shares to stock and convertible bondholders alike. Unless specifically provided for by contract in advance, however, the convertible bondholder may have his privilege of exchange at a profit indefinitely postponed by such emissions of new capital stock. Contrariwise, the long-continued issue of convertibles, as in the case of the Atchison in 1912, may act as a heavy drag upon the price of the stock. The Union Pacific distribution of profits made in Northern Pacific stock to common shareholders in 1914, with proportionate reduction of the dividend rate, was vigorously opposed by convertible bondholders. The drop in price of the stock, without a corresponding reduction in the conversion figure, naturally operated to the bondholders' disadvantage without any offset through participation in favors granted. Yet readjustment of the conversion figure was opposed by the shareholders. In brief, outstanding convertible bonds may give rise to all the conflicts of interest possible as between different classes of shareholders.

Still other disadvantages obtain. The convertible bond fluctuates widely in price, often following closely the movement

of the stock quotations. Large profits have been made, and likewise heavy losses, by persons who in reality sought investments stable in price. Such bonds are speculatively handled on the exchanges, being often "sold short" just like stocks. Union Pacific convertible 4s have at times been as unstable in price as the stock itself. Moreover, the operations incident to conversion or redemption may be complicated. Ordinary investors may not understand them. Instances are not wanting, as in the case of St. Paul bonds of 1893 convertible into preferred stock, not at maturity but within ten days after any dividend date, where many holders failed through ignorance to take advantage of their rights at the proper time. And finally, in some cases the bond convertible into stock at a ratio below par may be open to all the disadvantages of the issue of shares at a discount. Thus in 1903, and again two years later, the Erie road issued bonds to finance the purchase of the Cincinnati, Hamilton & Dayton road (afterward abrogated) and for purposes of improvement, convertible within ten years into common stock at $50 and $60 per share respectively. The low market price of the stock at the time did not indicate much hope of exercise of the privilege; but if it ever occurs, it will in effect violate the general prohibition by New York state of the issue of capital stock below par. A special act of the legislature rushed through in the closing days of a preceding session had amended the law by permitting conversion of bonds to take place, "at not less than the market value." The danger of a resort to expedients for watering stock is too apparent to need further comment. In practically all other cases, the privilege of conversion is fixed at par or above, sometimes as in the case of the Delaware & Hudson 4s, at as high a figure as 200.[1] In conclusion, it goes almost without

[1] *Cf.* Erie convertible 5s of 1912, exchangeable for stock at 66⅔. 1 P. S. C., N. Y., 2nd D., (1912), 238. In Massachusetts the Supreme Court has forbidden the issue of bonds convertible into stock years in advance, on the ground that it constitutes an evasion of the Anti-Stock Watering law. *Cf.* p. 276, *infra.*

saying, that an increase of capital stock must always be authorized in connection with an issue of convertible bonds, sufficient in amount to cover the requisite number of new shares after the exchange of bonds for stock has been effected.

A peculiar modification of a bond, in order to give it a speculatively attractive character, occurred in the case of the Oregon Short Line Participating Bonds of 1904. These securities, to the amount of $36,500,000, were based upon a deposit by the Union Pacific interests of their holdings of Northern Securities stock. In other words, they were not ordinary but merely collateral trust bonds; and the participating clause was added in order to overcome this disability and assure their successful flotation. In addition to a guaranteed 4 per cent., these bonds were to receive annually a supplementary interest equal to whatever dividend in excess of 4 per cent. might be declared upon the Northern Securities stock which underlay them. A peculiar complication arose in this connection. Dividends upon Northern Securities stock, being held back by litigation, threatened to pour forth in mass upon its termination, while in the meantime the regular 4 per cent. had to be paid from other sources. Were the participating bonds to share in all excess dividends above 4 per cent., when all these back dividends appeared at once, what an amazing bonanza they would have been.[1] A provision for retirement at 102½ pointed the way of escape. It enabled the company to release the underlying collateral, upon the issuance of the decree of the Supreme Court dissolving the Northern Securities Company. This was effected in 1905. Incidentally this episode emphasizes the need of including the right of retirement at a fixed price among the other stipulations of a bond issue.

Short-time borrowing by railways may be for several purposes, quite different in character and significance. Notes may be issued merely in order to anticipate assured income, as

[1] P. 506, *infra*.

is done frequently by cities or towns in order to cover current expenses until receipts from taxes suffice. Such financing is purely normal and requires no comment. Or notes may be emitted under financial stress by companies struggling on the verge of bankruptcy. In this case the episode is abnormal and usually merely postpones the evil day of reckoning. A third cause of short-time borrowing has within recent years assumed such proportions as to demand careful examination. Such borrowing for short periods of time threatens to disturb the general money market as well as the supply of long-term bonds. In the past it has commonly been associated with periods of financial disturbance, arising naturally of course in a tight money market when ordinary bonds are unsalable at any fair price. Every crisis since 1878, with the exception of the distinctively railway panic of 1884, has witnessed this phenomenon. But it has steadily assumed larger and larger proportions; and seems to be less critically regarded than heretofore. This is probably due to the fact that it is now resorted to by the strongest and most conservative railways; whereas it was formerly only a device for staving off impending bankruptcy by railways of the weaker sort.

As a device for merely postponing trouble, note issues are in bad repute. The Jay Cooke flotation of Northern Pacific notes just prior to the financial collapse in 1872 was almost identically repeated twenty years later on the eve of the panic of 1893.[1] The floating debts of important railways ran up by $124,000,000 at this time. The most prominent examples were the Union Pacific collateral trust notes of 1891–'94, and those of the Northern Pacific and the Atchison.[2] In all three cases, the notes falling due in a panic period precipitated bankruptcy. But the subsequent resort to note issues at the two periods of financial distress of 1903 and 1907 have been due to entirely

[1] Oberholtzer, Jay Cooke, II, p. 93, and chap. XII, *infra*.
[2] Daggett, Railroad Reorganization, pp. 199, 237, 287.

different causes. They represent forced borrowing, of course; for it is inconceivable that any company should pay high rates of interest for short loans, if regular bonds could be sold. But the significant feature was that they sometimes represented true development work rather than impending bankruptcy. No longer negatively palliative in character, they became, instead, positive and constructive. In point of fact, note issues have been utilized of late for almost every conceivable purpose for which long-time bonds used formerly to be emitted. They may serve to finance consolidations; to procure funds in connection with financial reorganization, as on the International & Great Northern; and to effect segregation, as by the Maine Central when it bought back itself from the Boston & Maine in 1914.[1]

The particular cause of the appearance of note issues in these years was the imperative need of providing facilities for handling an enormous growth of traffic. The freight blockade of 1899 was mainly due to insufficiency of equipment to handle the business offered. The trouble in 1903 under similar traffic pressure was inadequacy of terminals.[2] Many large companies, notably the Pennsylvania, had in consequence committed themselves to large projects of terminal development. These commonly proved more costly than was anticipated; and, moreover, the panic of 1903 caught them unawares, midway in construction. The work could not be interrupted, even temporarily, without heavy loss upon all investments already made. It was imperative to go on at all cost. Bonds could not be floated at any price. Notes were a last resource. It should be added, however, that other causes also contributed to the financial pressure. While the Pennsylvania was making extensive improvements at New York, it was also, in conjunction with the New York Central, engaged in wholesale purchase of the stocks of the anthracite and other secondary trunk lines, in order to steady both the hard coal and the

[1] P. 147, *supra* and 170, *infra*. [2] P. 184, *infra*.

general rate situation.[1] In other words, progress towards combination was already under full headway.

The growth of borrowing on short-time notes in recent years is highly significant. It was estimated that approximately \$136,000,000 of such securities were issued in 1903–'04 in connection with the "rich men's panic." With the next financial reaction, three years later, such loans aggregated about three hundred million dollars, most of them made within the first five months of 1907. Ordinary bonds during this time amounted to less than two-thirds of this sum. The Pennsylvania Railroad alone thus borrowed \$60,000,000. A brief respite then ensued; but in 1912 approximately \$500,000,000 in corporation short-time notes of all kinds were outstanding, over half of these representing specific public issues by railroads. The larger part of these obligations, estimated at \$567,000,000, fall due during 1914, one trunk line alone having to meet maturing obligations of upwards of \$100,000,000. A rough indication of the growth of such borrowing is afforded by the official Federal statistics. Within six years, plain bonds debentures and notes doubled in amount, reaching a total of \$1,107,000,000 in 1913. The immediate outlook for abatement of this stop-gap financing by means of long-time bonds is doubtful, depending upon a resumption of general trade activity. The course of events depends, moreover, upon the general movement of rates for money. In 1903–'04 the short-term notes yielded about 4.5 to 5 per cent. Three years later the rate of interest ranged between 5 and 6 per cent., some roads like the Erie being forced to pay as high as 8 for accommodation. A more normal use of credit resources through the issue of long-time bonds, even at relatively high rates, becomes well-nigh imperative under such circumstances. Continued temporizing with the money market by companies with sufficient credit to be able to issue bonds at all, would seem to be unwise.

[1] Pp. 150, *supra* and 480, *infra.*

Exhaustion of the regular supply of loanable capital, not so much for the purpose of financing stock market operations incident to the spread of consolidation as because of even more general causes, has been responsible for the continuation of the second wave of note issues, which dates in the main from the panic of 1907. The perfection of credit machinery, coupled with the flow of funds to New York as a borrowing centre, had during the preceding period demonstrated the ease with which temporary supplies of capital could be had on short notice. In other words, the growth of the borrowing habit was encouraged by the ease of indulging in it. But in addition, it is indubitable that many temporary loans in recent years have been made by strong companies in order to protect the market prices of some of their older bond issues. Most standard roads had many outstanding bonds of unquestioned security, issued at much lower rates of interest than have of late prevailed. The managements naturally felt great disinclination toward entering new securities of the same class at higher rates into competition with the older bonds. The effect could not be other than to depreciate their market price. They preferred to resort to temporary financing even at considerable expense, hoping for a change of wind. And then, moreover, they hesitated to commit themselves to long-time issues at the prevailing high interest rates, hoping continually, by coquetting with the money market for a time, for a decline in the current rates for funds.

These short-time notes may be secured by the deposit of collateral or, as in the case of the Pennsylvania, they may rest solely upon the credit and reputation of the company. Under such circumstances they would rank as an investment intermediate between income bonds and preferred shares as a lien upon current earnings. It goes without saying, also, that the value of the notes depends largely upon the purpose for which the money is borrowed. If the funds are to be spent upon improvements to produce increased revenue, the

situation is quite different from that of putting forth notes merely to refund maturing issues, the proceeds of which have been long since spent, possibly for more or less dubious purposes. Such was the pitiable situation in 1913–'14 when almost one hundred million dollars of short-term notes of the shattered New Haven system called for renewal.

As for the outcome of these large note issues, it is unfortunate, perhaps, that in the beginning it was successful. In other words, the notes were mainly paid off without inconvenience from the proceeds of regular bond issues after the lapse of from one to three years. Even some of the issues of 1907 were actually bought up by the companies themselves in advance of maturity. Surplus funds drawing 2 per cent. interest could profitably be devoted to this purpose. The fact, however, that in most cases these first notes happened to fall due at times when the needs of the companies could be permanently cared for, does not detract from the possible danger lurking in their use. As events soon demonstrated, notes chancing to mature at an inconvenient time, the situation easily became desperate, and this, too, quite apart from the excessive cost of such hand-to-mouth finance in any event. The first road to learn this lesson was the Erie, which was barely saved from default and another bankruptcy by the intervention at the last moment of E. H. Harriman, when its notes fell due in 1908. Within a few years the Wheeling & Lake Erie and the "Frisco" went into bankruptcy, not, perhaps, because of, but certainly on the occasion of, the maturity of short-time notes. The latter, for example, thus borrowed $6,000,000 in 1911, $9,000,000 in 1912 and $10,000,000 in 1913. But the clearest demonstration of the danger of excessive resort to note issues occurred in connection with the collapse of the New England roads in 1913–'14. Both the New Haven and the Boston & Maine had come to make use of these once temporary expedients for routine purposes of finance. The difficulties of the former in renewing its obliga-

tions are described in detail elsewhere.[1] As for the Boston & Maine, its short-term notes maturing in 1914 aggregated $27,-000,000, the larger part issued on a 7½ per cent. basis. Of this total not less than $20,000,000 of notes covered the purchase of stocks in subsidiary companies. The resulting interest charges were in many cases much greater than the income from the new investment. The least defensible transaction was the issue of short-term notes in order to take up a proportion of new stock of the Maine Central in excess of the number required for continued control. Over and above the necessary quota of new stock issues of this subsidiary, 33,300 shares actually cost the parent company in short-term notes about $110. This was apparently done in order to make a market on which the outside public purchased the remaining 42,000 shares for par.

Aside from the above-mentioned danger, financing through the issue of short-term notes is necessarily most expensive. The issues, of course, always have to be underwritten; and the attendant banker's commissions, especially in cases where the issues are renewed time after time, reach a formidable total. And, in addition, the cost is greatly increased whenever such notes are issued at a discount, because, obviously, this discount has to be taken up on the early maturity of the notes. The prevalent policy of temporizing with the money market, even at such expense, may be either far-sighted or short-sighted according to whether the prevailing financial conditions are temporary or permanent. But the repetition of bankers' commissions at short intervals usually makes such financing cost more than if, as the President of the Pennsylvania, puts it, "you take your medicine at the start."

From a yet wider point of view, the seriousness of the recent tendency to resort to short-term financing is that it accentuates the condition of affairs which it seeks to remedy. By withdrawing from trade the floating supply of capital, extensive note issues by railroads compel merchants to draw upon the

[1] P. 276, *infra*.

available long-time investment funds of the community for the daily needs of business. In other words, extensive note issues discourage, if they do not preclude, ordinary borrowing by means of long-time bonds. The appeal is usually to the large sources of ready capital. Until the reform of the New York life insurance companies, they invested heavily in such notes. Short-time notes are commonly in large denominations for the convenience of such lenders. Frequently, too, the notes used to be secured by deposit of collateral, ordinarily free holdings of stocks or bonds of subsidiary companies. But many in recent years are issued upon the mere credit of the company, being otherwise unsecured. Many are thus rendered semi-speculative in character. This naturally leads to wide fluctuations in value. It is sometimes difficult to separate such liabilities from the ordinary funded debt. They should always, naturally, be regarded as current liabilities, of the nature of floating debt. But in 1910, leading companies like the Erie and the Baltimore & Ohio failed to so designate them. This is a most deceptive practice. On the whole, viewing the developments of the last decade, one is almost tempted to hope that a few more sharp lessons may serve to remind railway financiers of the risks incident to the growth of this short-note habit.

Car trust certificates or equipment bonds are highly specialized liens upon particular items of railway property.[1] A company having mortgaged all of its tangible assets, and being unable to issue new capital stock, is in dire need of new cars and engines. The relative economy of issuing equipment trust notes on the one hand or of paying large sums for car hire on the other, depends upon the state of the money market and the credit of the company. The Wabash and the Boston & Maine about 1912–'13 afford good examples of the wastefulness in

[1] Chamberlain, Principles of Bond Investment, 1912, p. 292, is particularly good on this. *Cf.* also Cleveland and Powell, *op. cit.*, pp. 81–94; and *Com. & Fin. Chron.*, vol. LVI, p. 181; vol. LXXXII, p. 1296.

operation of the needy road. The Wabash was expending over one million dollars yearly for car hire, which could have been saved twice over, could the necessary funds have been borrowed at 6 per cent. for the purchase of equipment.[1] But this course is not always open. There are practical as well as legal objections to direct loans based upon the acquired rolling stock as collateral. A roundabout plan is in use, which practically amounts to borrowing the equipment, instead of the money; and paying for it gradually as surplus revenues permit. An independent syndicate is formed, which purchases the desired rolling stock,—as in 1903 on the Pennsylvania system some thirteen thousand freight cars. Or it may be that one of the great railway equipment companies enters into the agreement. The cars are then leased to the railway for a short term of years, under an agreement providing for interest and gradual payment of principal. Only upon the final payment does actual title to the property become vested in the railway.[2] In the meantime, it would appear to have no equity in the property. The lease thus made is then assigned to a trustee, and "car trust certificates" are issued and sold to investors. The requisite interest upon these bonds, of course, are derived from the rentals paid to the trustee by the railway company under the terms of the agreement. This cumbersome process seems to be an outgrowth of the inelastic character of the mortgage bonds of the railway already outstanding. The deed of trust itself is a highly complicated instrument, providing for repairs, maintenance and replacement of the property, and its final delivery at maturity. Bitter experience of former years, as upon the Erie in the '70s where car-trust certificates at maturity found the rolling stock completely worn out have compelled the most elaborate safeguards against fraud. Recently the process seems to have been simplified somewhat by the abandonment of

[1] *Cf. Railway Age Gazette,* vol. LVI, p. 668, contrasting different roads; and *idem,* vol. LV, p. 1596.

[2] *Cf. Com. & Fin. Chron.,* vol. LVI, pp. 56 and 81, on the interpretation of car trusts by the U. S. Supreme Court, in case of insolvency.

the terminology of a lease contract. Despite the complexity of such operations, the volume of equipment trust obligations has enormously expanded in recent years. While the total funded debt of American railways between 1898 and 1907 increased by about 60 per cent., equipment trust obligations increased over eightfold. The total outstanding in 1908 was $344,000,000. While not a large proportion of the total funded indebtedness, the rate of increase in recent years has been notable.[1]

[1] *Cf.* p. 389, *infra* on equipment trusts in reorganization proceedings.

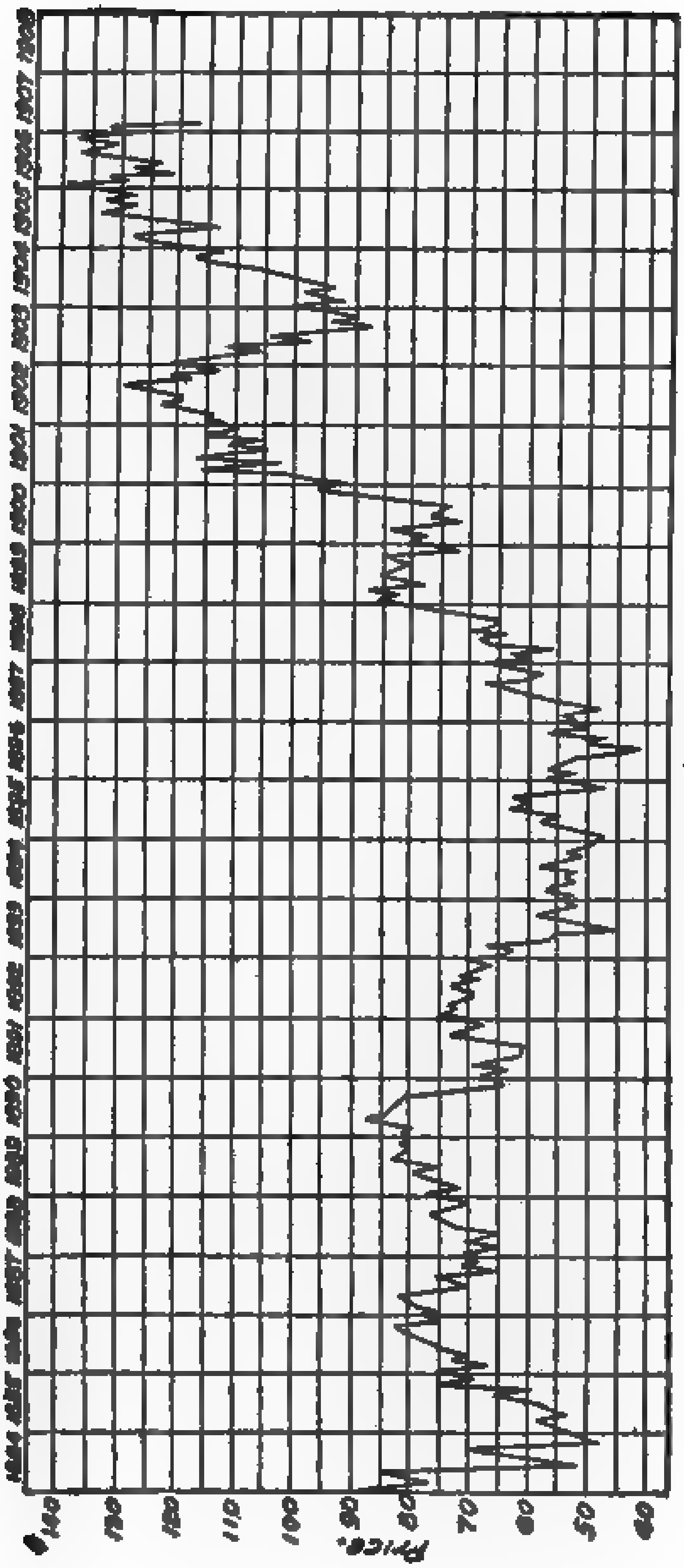
CHAPTER V

THE COURSE OF MARKET PRICES

THE fluctuations of railway security prices are like the waters of the sea; they move in tides, waves and ripples. These are depicted upon the diagrams on the next few pages.[1] The great tidal sweeps, both for railway and industrial security prices, are mainly defined in recent years by the panic of 1893 and its ensuing four years of industrial depression. Both before and after this event quotations attained flood-tide levels, although in different degrees. The first great movement began just after the panic of 1884 [2] — distinctly a railway disturbance — in a great upward sweep culminating just before the

[1] For statistical data consult W. C. Mitchell, *Journal of Political Economy*, vol. XVIII, 1910, pp. 345 and 513; and also vol. XXI, 1913, p. 500. Our diagram since 1884 is from a bulletin of the Statistical Department of Thomas Gibson of New York. James Brookmire of St. Louis has also published an excellent chart of stock exchange movements for about the same period. The larger diagram is based upon an index number carefully compiled for many years by the *Wall Street Journal*. This index comprises twenty railroads and twelve industrial companies, the curves for each group being separately shown upon the chart.

[2] *Cf.* Ripley, Railroads: Rates and Regulation, p. 27; also the life of Henry Villard and other speculators of the period.



Fluctuations on New York Stock Market.

Baring collapse in 1890. After this brief interruption th upward swing continued until the sharp break of 1893. A this point, low tide prevailed for about four years; but by 189 it would appear that recovery had just about re-established th general level of prices of 1885–'92. From the latter part o 1898 dates a second and more remarkable general uplift i prices which lasted for a number of years. This second gre movement is of compelling economic interest; because, b reason of its magnitude, it was evidently far beyond the contr of any speculative clique, however powerful. It represents great tide whose causes were fundamental. But in order fully understand these, the minor influences on the surfa must be briefly treated by themselves.

The great tidal sweeps, judging by these diagrams, a overlaid by a series of secondary movements, some of the extending over several years. Among the earlier ones, 1886–'8 1890 and 1892 stand forth; while on the surface of the la great tide the years 1901–'02 and 1905–'06 appear as seconda waves. These are more clearly the result of artificial influence but the part played by organized speculation, as distinct fro either nature, politics or the world's business affairs, begi to be discernible. This is evidenced by certain differenc between the curves for railways and industrials.

The year 1898 witnessed the speculative marionettes dan ing; but its interest lay principally in the fields of industri promotion. Unparalleled credit balances against Europe, an keen recollection of the dire results of unrestrained industri competition during the preceding four years of hard tim brought about an extraordinary activity in the promotion trusts.[1] The railways were little concerned. Their time d not come until two years later, when the second eruption speculative mania occurred. The year 1901 was the time great industrial underwriting syndicates, drawing upon t unwieldy surpluses of the New York life insurance compani

[1] *Cf.* p. 186, *infra.*

It was the year of the formation of the United States Steel Corporation. More to our purpose, however, is the fact that 1901 witnessed the spread of the consolidation movement over into the field of transportation. Great railway companies were bought and sold almost like eggs over the counter, the necessary funds being obtained by the issue of collateral trust bonds, secured by the deposit of the stocks thus purchased.[1] The peculiar activity in railway consolidation, putting up market quotations unprecedently, is shown by the relatively great rise of the upper curve on the large diagram during 1900–'01. The gap between railway and industrial index numbers, which formerly ranged from five to ten points, now becomes for several years 50 or more units. The widest separation between the two is in the late summer of 1902, when the index for industrials was about 67, while the peak of railway quotations carried them simultaneously almost to 130. The two indices stood for a season at ratios of almost one to two. A speculative pyramid was thus erected finally, based upon general public interest on an unprecedented scale. On April 30, 1901, no less than 3,200,000 shares of industrial companies and railways exchanged hands. After a brief interruption, due to European interference based upon alarm at our financial excesses, the succeeding year 1902 was characterized by a renewal of speculation. But this time it fell into the hands of more reckless and financially irresponsible leaders. At this time the belated Rock Island plan was announced — chronologically related to the successful railway mergers of the preceding years about as was the ill-considered International Mercantile Marine combination to the flotation of the United States Steel Corporation. By this time credits had become over-expanded; and the inevitable penalty was paid in the panic of 1903. But the railways were relatively little involved in this disturbance, except speculatively. The collapse was more pronounced among

[1] P. 459, *infra*. *Cf.* Eliot Jones, *op. cit.*, p. 63.

industrial corporations. They were all tried by fire. A number of them, such as the shipbuilding, asphalt and bicycle companies, paid the price of reckless or dishonest promotion and management in bankruptcy and reorganization. The value of railway shares suffered considerably less in proportion than those of the trusts, although the absolute fall of their index number was of course greater. Railway shares fell during 1903 by approximately one-fourth. But the index of industrial quotations dropped from about 67 to 42, or nearly 40 per cent. Moreover, the benefits derived from the suppression of competition and from steadily advancing rates for transportation enabled the railways to recover more quickly whatever ground they lost.

During the speculative wave of 1905–'06 the tables were turned. This time the railways lagged behind the industrial companies. There was witnessed, to be sure, a culmination of quotations manifestly higher than in 1902 and prolonged over a greater period of time. This could not be otherwise with the record of net earnings then being made, as will shortly be described. But the great campaign for the Federal and state regulation of common carriers was in full swing and operated to restrain an undue speculative enthusiasm.[1] Whatever heights were attained by railway security prices were due to the phenomenal increase of business which the growth of the country had brought about. Prices could not well be "boosted" in the face of the political agitation then under way. Furthermore, the insistent pressure for funds for improvements and extensions, projected or actually under way, received little encouragement or satisfaction from a money market often drained of capital for purposes of speculation. No such positive legislative programme concerned the trusts. They likewise were prospering under their newly acquired earning powers. Their weaker members had been eliminated or had been materially reorganized. So that in consequence the in-

[1] Railroads: Rates and Regulation, p. 487.

dustrials, and mining and land promoters basked in a veritable sunshine of speculative favor. The railway financial sky, while moderately clear, was rendered hazy by the shadow of Congress. Matters thus went on for nearly two years, again with the inevitable result. Credit was over-strained, dishonesty developed, or rather was brought to light; and the panic year 1907 was the result. During this time, as the folded chart shows, the two curves of index numbers were again becoming closer. The gap between them narrowed to about 30 or 40 points. So far as railways are concerned, recovery from this depression of 1907 was again retarded by a continuance of political agitation, finally leading up to the Federal act of 1910. And in the meantime the steadily increasing costs of operation, especially in so far as caused by widespread demand for higher wages, became more and more insistent. Despite these restraining influences, prices again rebounded after 1907, but scarcely attained the heights reached in 1905–'06. On the other hand, they threatened in no wise to drop back to the levels of the preceding decade. Even the severe decline extending for over a year in 1909–'10 did not bring the index numbers anywhere nearly as low as either in 1903 or 1907.

Turning now to the general conclusions to be drawn from consideration of this evidence, a most important large question is raised by the relative heights of the great tidal waves before and after 1893–'97. Has the general level, the mean tide, of prices reached an elevation permanently higher than that of 1885–'92? Or may the downward movement now under way since 1906 carry us back to conditions substantially like those which then prevailed? Momentous questions, such as the propriety of present capitalization and the fairness of rates for service, hinge upon it for their determination. A positive answer is difficult, so much are things always in the making. For a time it seemed as if security prices had become firmly and permanently established upon a higher plane as a result of changed conditions since 1900. Whereas the waves of prices

in the '80s fluctuated above and below 70, according to our large folded diagram, dropping in 1893–'97 to a general level of about 50, they soon rose and fell after 1900 about a standard as high as 110. In other words, the mean tide was upwards of 50 per cent. above its elevation before the panic of 1893. The general level of the pre-panic years was about reached in 1900. The growth, subsequently, fixed a new base, upon which was overlaid an enormous advance which was held for some time thereafter. Whatever fluctuations occurred, none of them dropped to a figure comparable with the price levels at the close of the last century.

It is the course of events since 1906 which is most significant for present-day problems. Gross income year by year steadily increased; but, on the other hand, net returns and security prices, after fluctuating for a time up and down about a horizontal line, have strikingly fallen away since 1910. The climax seems to have occurred in that year more in respect of income than of market quotations. Taking three-year periods, reasonably comparable, in 1890–'92 and 1907–'09, it appears that during the interval of eighteen years, net income per mile of operated track increased more than threefold, while market quotations about doubled. But from 1910 forward, the difficulties of the carriers have multiplied on every hand. Nor are the causes of this retardation and subsequent decline of railroad security prices during these years in the least obscure. A number of distinct factors have alike contributed to the same result. Positive changes in operating conditions come first. An undue increase in capitalization as compared with earning power is in evidence. New and largely unproductive investment must be considered as a factor. Heavy capital obligations, ultimately productive but not yet profitably utilized, were also incurred. Competition with other forms of investment for the available capital supply of the world took place, coupled with changes in the general rate of interest. And the cup of woe was overflowingly filled at the last by the European

wars of 1914, interrupting the free export of our agricultural surplus. Right in the face of these conditions, inability to adjust their charges freely to the new conditions because of prohibitory legislation, has unquestionably shaken public confidence and accelerated the general decline in market quotations due to other influences. All and sundry of these causes acted quite independently although in coincidence, such as the rise of commodity prices and the increasing demands of the public for service. In the aggregate a most serious and disquieting situation arose, calling for substantial encouragement by the government through permission to increase rates. Perception of the gravity of it all found expression at last in December, 1914, in the final permission of the Interstate Commerce Commission granted the trunk lines after four years of waiting to raise their rates by five per cent.

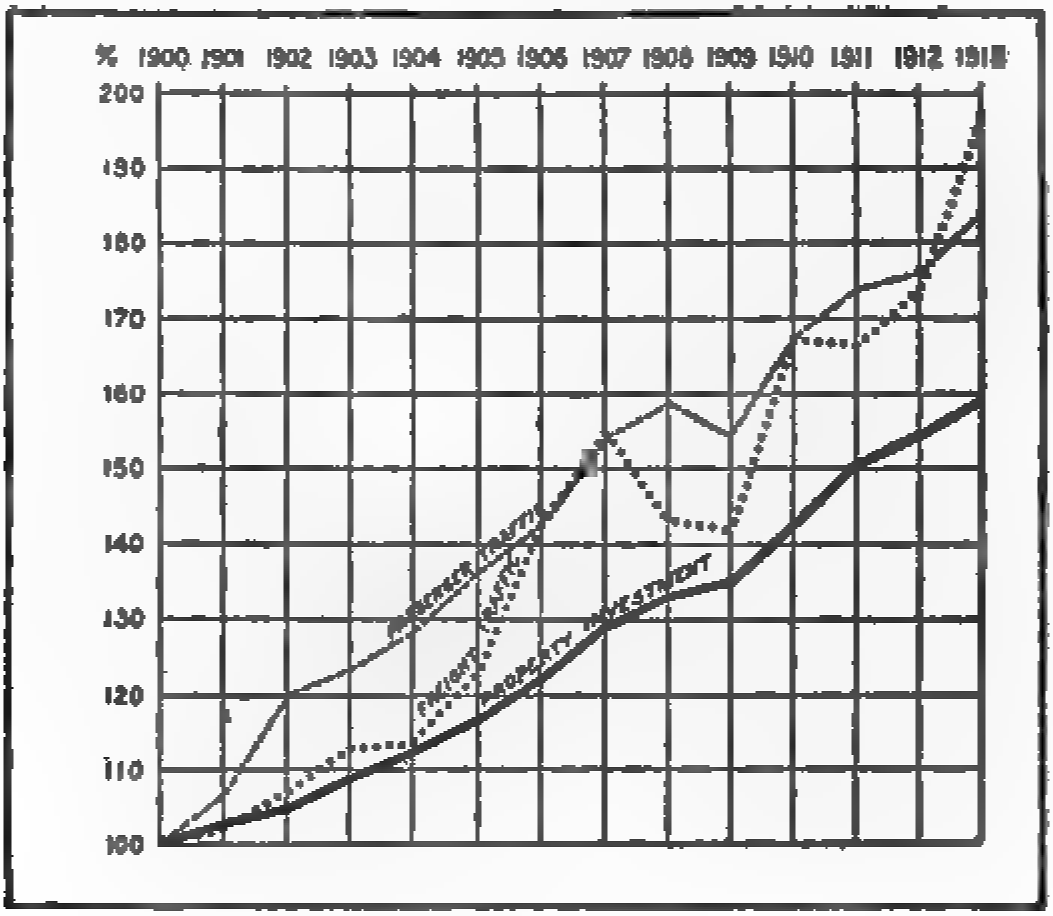
Positive changes in operating conditions since 1906 have been great and far-reaching.[1] These naturally fall into two groups, having to do with operating expenses and capital investment, respectively. As for the first, the steady rise in the "cost of living" is strongly in evidence. The operating ratio, measuring the relative profitableness of the business, has risen by leaps and bounds since 1900.[2] Only in 1906 and 1910, because of greater density of traffic and prosperity, was this tendency interrupted. Steadily growing gross receipts were more than offset by the great increases in wages and the cost of supplies. Nor was this movement confined to the United States. It seemed to be a world-wide phenomenon.[3] The second aspect of the case, operatively, had to do with the rapid rise in property investment. The situation is best illustrated by the two subjoined diagrams. The property investment, to be sure, did not increase as rapidly as the volume of traffic; but, on the other hand, the ratio of net operating income to

[1] Best detailed in the Five Per Cent. Rate case of 1914; 31 I. C. C. Rep., 351, concerning trunk line increases.

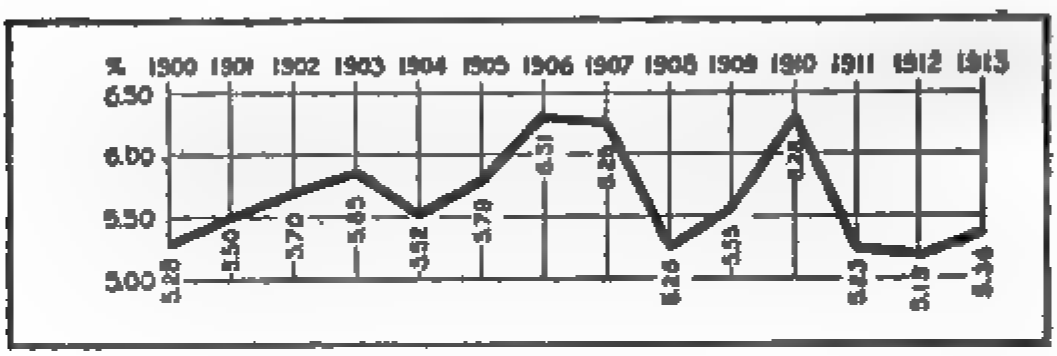
[2] *Cf.* diagram in Appendix II, *infra.*

[3] *Railway Age Gazette*, vol. LV, 1913, p. 919, on the European situation.

property investment very greatly declined in general after 1906. Some of the reasons for this heavy increase in property account, entailing, of course, greater and greater burdens in the form of



Comparison of Increases in Capital Investment and Traffic, 1900 to 1913 Inclusive



Ratio of Net Operating Income to Property Investment

fixed charges will soon be discussed. The effect upon market quotations of the above-named operating tendencies was naturally at once direct and great.

The second factor which contributed to the fall of market prices, according to our foregoing list, was a marked increase in the outstanding issues of securities, and particularly of bonds, within the preceding decade.[1] Many roads augmented their capitalization in undue proportion to their growth of assets. Others, even more imprudent, permitted their capitalization to outrun greatly the increase of earnings. Matters of this sort are fully described in our chapter on over-capitalization.[2] Market quotations progressively and inevitably declined because of doubt, too frequently confirmed, as to the ability of the roads to maintain their dividends. Yet such companies were probably the exception. The larger number were undoubtedly compelled within the period under consideration to put forth large issues of stocks and bonds for purposes of improvement. Double and even four tracking; steel in place of wooden structures; heavier rails and larger rolling stock; and, especially, much more ample terminal facilities;—all of these necessitated large expenditures. And wherever such new capital was obtained through extensive issues of shares at par or below the market price, the effect was also to reduce proportionately the market quotations. The value of rights, in other words, came off the price.[3] On roads like the Great Northern or the Lackawanna such deductions were very great. The relativity between earnings, income and security prices was thus seriously disturbed. Certainly an important reason for the retardation of market prices behind the advance of net earnings was for a time the somewhat inordinate increase in merely nominal capitalization. Almost every financial operation tended towards additional security issues. Pure stock dividends following long-continued reinvestment of surplus earnings in the property, or even offered without such warrant; additional subscriptions of new capital in order to increase facilities — nearly all of these operations used to offer a bonus to stock-

[1] *Cf.* pp. 63 and 108, *supra*. [2] Chapter VII, *supra*.
[3] P. 270, *supra*.

holders or bond syndicates in some form or another. There were liberal "commissions" or stockholders' "rights" in order to encourage participation. And the result was that net earnings were to some degree distributed over a wider base than before. Were this not so, the market prices of many roads would unquestionably be far higher than they are today. Whether the new capital for expansion or improvement could have been obtained without such substantial encouragement must remain largely a matter of opinion. Similar "plums" by industrial combinations certainly tempted new capital away from railways. And such competition, of course, had to be counteracted in some way. On the other hand, for roads like the Pennsylvania the gradual process of completer utilization of plant, built to accommodate years of growth ahead, has greatly lessened the force of whatever criticism these comments may seem to imply.

The third cause of declining market quotations following 1909 was the large expenditures which were necessary, probably never in themselves to be directly productive of revenue. This was peculiarly true in the more densely settled districts of the North and East. The growth of population had brought an irresistible demand for abolition of grade crossings, not only in cities but all along the right of way. Larger and better stations and expensive terminal facilities, while adding to the value of service rendered, would never yield proportionate returns in revenue. Many of these expenditures were for passenger service.[1] The Pennsylvania station in New York City cost $114,000,000 and the New York Central terminal over $80,000,000. And then from all over the United States came increasing demands for safer service. Block and signal systems, boiler inspection laws, full-crew train laws, safety appliance acts, air breaks and limited hours for service; all of these improvements, although entirely proper, added relatively little to revenue capacity. Nor were they ever expected to add

[1] 31 I. C. C. Rep., 387.

to it directly. Nevertheless, the funded capital investment which they entailed became an immediate charge upon earnings and took priority over the capital stock. It was inevitable that any growth in this form of expenditures should operate to retard the rise of quotations. A statement of President McCrea of the Pennsylvania in the freight rate hearings was highly significant. He reported an outlay of $108,000,000 on the New York terminals, for a large part of which no additional return whatever could reasonably be expected. Prestige and strategical position undoubtedly count for much; but, on the other hand, an improvement in public service for which the public in general may well congratulate itself, followed as a matter of course. Yet such enormous outlay at once and directly affected the quotations for railroad stocks and bonds.

Liberal outlays were also required about this time, not only for public purposes quite unproductive of revenue but also in order to lay a secure foundation for the traffic of future years. Such expenditure differs from the preceding sort, in that while both may be for the moment unproductive, this latter class is intended ultimately to bring about a profitable use. All over the United States a point seemed to be reached a few years ago when the physical plant suddenly became outgrown.[1] Single-track lines were swamped with traffic. Terminals became congested beyond endurance. Great additions were made, in some cases sufficient to care for growth for many years ahead; grades were reduced, curves straightened, bridges rebuilt and relocated and yards enlarged. Sometimes these additions were paid for by outside subscriptions of capital, sometimes by reinvestment of surplus earnings; but in either case the new increment of capital could not in the nature of things be utilized to its full capacity, — that is to say, made to yield immediately a normal rate of return in and of itself. The result was an apparent "watering" of capitalization. But moderately increased revenues had to be distributed

[1] Railroads: Rates and Regulation, pp. 62, 80, 548.

over a much wider capital base than before. Only gradually, as the growth of traffic "took up the slack" of the new capital investment, would this apparent "watering" disappear. The present status of the Pennsylvania company perfectly illustrates this point. Having now largely completed additions and improvements adequate for the needs of years to come, its securities might with some confidence be expected to appreciate in value, even more than commensurate with the growth of traffic or earnings from year to year. The present market price of its stock is not low because it has been unduly watered, but because it has to bear for a time a disproportionate burden of capital cost incurred to meet the need of future years.

The fifth factor partially accountable for the disheartening movement of market prices after 1906, was the competition of other forms of investment. There can be no doubt that the great and successful industrial combinations drew heavily upon the available supplies of capital. This tendency was particularly potent after the panic of 1903. In this connection the divergence between the courses of the two index number curves of late, already commented upon, is significant. The closing up of the gap between the price indices of railways and industrials within the last five years was due to the relatively greater rise for industrial securities. Their steadily expanding earnings, after the weak ones had been eliminated; their immunity from price regulation by governmental authority; and the adoption of policies of financial publicity alike contributed to bring them into high favor. Moreover, the wonderful expansion of the world's consumption of metals necessitated great promotion of mining ventures. There is only about so much new capital available year by year for purposes of investment. And every share of the United States Steel Corporation, of American Tobacco or Sugar or of the Amalgamated Copper Company became a competitor with the securities of the railways. The potency of such competition cannot be doubted.

An element finally to be reckoned with, in analyzing the general movement of security prices, is the possibility of a change in the general rate of return upon all capital investment. Any increase in the normal interest rate would necessarily bring down market quotations to a corresponding degree, even in the face of a constancy in the rate of net earning power. This intimate relation of the money market to prices was well exemplified in the fall of 1906 and the ensuing spring. Money was very "tight." First of all, this brought down the quotations for all classes of bonds; long-term securities were entirely unsalable at fair prices. The railways were compelled to issue notes at prices to yield nearly 6 per cent. This, in turn, induced the holders of stocks yielding less than this rate at going prices, to sell them down to an equilibrium. The drastic decline of the first quarter of 1907 was largely due to this cause. Imagine such a process, operating in either direction, to become chronic instead of acute; and permanent changes in price level must inevitably follow. The latest *coup* to the money market was given by the outbreak of the European wars in the summer of 1914. It is too early to venture prediction as to the ultimate outcome; but for a time, certainly, the exhaustion of capital must make for much higher rates for money. Competition of the available supply the world over will be severe. This far-reaching influence may far outweigh in importance the serious although temporary embarrassment to the railroads which arose from the interruption of our agricultural exports to Europe.

Attention is drawn by the foregoing diagrams of security prices to an important matter. Can there be any question, after perusal of these charts, that the secondary waves of price, as distinct from the great tidal sweeps, are more marked of late than they used to be? Are not the crests and hollows since 1898 more pronounced than they were prior to 1893? Shall we be content with the reply that inasmuch as the tidal depth is increased, the surface waves may properly be greater? A range of twenty units on our scale sufficed to define a "wave"

in the earlier period. This was between one-third and one-quarter of the general elevation of the index number. Nowadays between crest and hollow forty units range is not unusual. This, to be sure, is still not far from one-third of the now substantially raised general level. But does that explanation suffice? One inevitably correlates this phenomenon with the great movements toward consolidation in operation and concentration of control. This movement embraces, not railways and industrials alone; it comprehends within its sweep all manner of financial agencies. Banks and trust companies, especially in New York, are arrayed in great groups, with a resultant unprecedented power of domination. The great insurance companies, happily enough, have now been in a measure forced to stand somewhat apart. But all other agencies of importance in the game of organized speculation now co-operate to a common end as they never did before. And it is, of course, almost too well recognized to warrant mention that speculation creates or exaggerates — because it lives upon change — all of the normal fluctuations of prices determined from year to year by the weather, by politics or the fortuitous course of events.

Another matter, too technical to be fully treated at this time but worth a passing comment, is the relation in time between changes of prices for railway securities and other commercial or industrial events. The stock market is very properly described as a barometer of trade conditions. It is its function to forecast the future. It is rarely concerned with happenings of the day, except they be sudden disaster. And, even then, it proceeds at once to consideration, not of present status but of future effects. What then is the relation between the course of railway earnings and of the securities dependent upon them for returns? The answer may, of course, confidently follow that the security fluctuations regularly antedate the course of earnings. This is as it should be. It was well exemplified in the panic of 1903. Throughout most

of that year security prices were crumbling away and had actually begun to recover, according to our chart, before net earnings fell off. It was not in fact until January, 1904, that this occurred. Gross earnings sometimes respond more quickly, owing to the ease with which expenditures may be postponed. But net earnings at this time were certainly very slow to respond to changes in general business. And much the same thing seems to have happened four years later, although the collapse was, if anything, more sudden. And then again, how about the course of railway earnings in relation to other commercial results of panic, such as changes in the volume of general business, the proportion of unemployment of labor, and more important still, the ups and downs of prices and of the cost of living? Is it indeed true, as has been confidently affirmed of Germany in 1900, "that the railroads are last to show the effects of depression and the first to recover"? On the other hand, labor was the first to feel the depression and capital was the last to recover. If this be true of the United States as well, it has large importance for the owners of railway property. For it gives assurance of a stability of returns greater than that probable upon any other form of investment. A most interesting and repaying vein of statistical research is uncovered by these queries, extending over into fields hitherto not at all worked.

There yet remains for the briefest mention the speculative ripples upon the surface of the markets. These are for the most part seasonal, corresponding to the regular routine of crops, of the exigencies of banking and of general trade. Attentive consideration over a period of many years reveals what may be called a normal cycle. But the exceptions are so frequent, especially since 1910, that no confident prediction is ever possible. Speculative campaigns "for the rise," so-called, are usually favored by the periods of easy money in late winter and very early fall. June and January "rises" are traditional, but are of course, when they occur, the periods during which

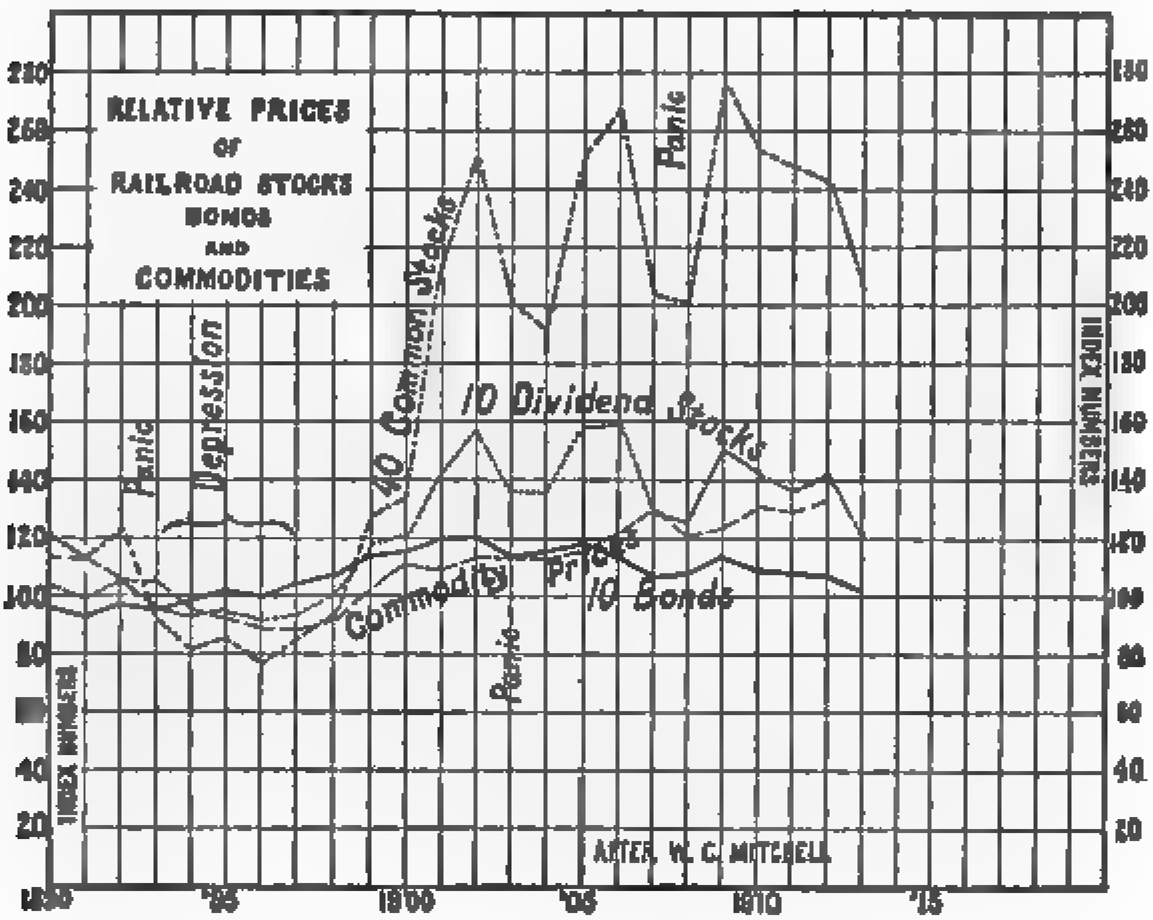
professional speculators expect to dispose of their holdings, accumulated during the preceding dull months of easy money. Not infrequently also, plans are laid for uplifted prices, based upon advance crop news, in August or early September. Such an advance enables the professional manipulator to dispose of any stocks on hand. He then prepares to buy again at such lower prices as are apt to prevail during the crop-moving period when "money is tight," public speculation lags, and Congress and the state legislatures convene. But all of these fluctuations have little to teach in a large way. The cycle is as apt to occur in the hollow of a great wave, as upon its crest. Such matters must be of daily importance to the banking community or the stock broker, but have little significance for the student of transportation in any large way.

The movement of prices for railway bonds[1] is subject to many influences similar to those which play upon stocks; but, nevertheless, many entirely different factors enter into consideration. How different the course of bond prices has been is evidenced by the accompanying chart,[2] covering the period since 1890. Disregarding the abrupt fluctuations of the

[1] Statistical data on the movement of bond prices are given by W. C. Mitchell in the *Journal of Political Economy*, vol. XIX, 1911, p. 272; and vol. XXI, 1913, p. 510; N. Y. *Times Annalist*, May 19 and 26, 1913, with charts since 1870; and file of the *Wall Street Journal*. Chamberlain, The Principles of Bond Investment, p. 473, has charted the movement for 1856–1911.

[2] Thirty-five railways and five express and allied companies, all affording continuous records since 1890, are comprehended in the series. Roads like the Burlington, Lake Shore and even the Rock Island are omitted because of change of financial status within the period. Moreover, the list excludes preferred shares in the main as being less sensitive to changes of sentiment or conditions. In this regard the index differs widely from our former series. In short, this is really a more scientific selection than that of the *Wall Street Journal*. It is probably more reliable than any other evidence to be had. The index numbers for commodities are the well-known ones of the United States Bureau of Labor, slightly modified for purposes of precision. For both securities and general prices, the average for the decade 1890–'99 is taken as 100; and the arithmetical mean for each year is based thereon. Professor Mitchell has periodically published the data in the *Journal of Political Economy*.

panics in 1903–'07, a slow and silent retreat in bond prices took place until the Balkan War in the fall of 1912. From that time until the close of 1913 a more marked decline ensued, carrying the low point even beneath that of the depression of 1907. Evidence was not wanting of a recovery during 1914 which promised, had not the European wars occurred, to restore more normal conditions. All in all, a species of slow



panic in this field of conservative investment well deserves careful examination.

The primary influence affecting the market quotations for bonds is the value of money. This is the principal factor which differentiates the course of bond prices from those of stocks, assuming that the factor of security, or, in other words, of risk is eliminated. As money becomes tighter and capital more difficult to obtain, new funds for corporate purposes may be had only at higher rates of interest. In consequence, the price of already outstanding securities tends to decline to a

point where the same yield is afforded as upon current issues. Higher rates of interest in general mean declining bond prices and *vice versa*. During the period under consideration, changes in the value of money operated cumulatively in two distinct ways. There was first to be considered the phenomenal rise in commodity prices in general. This followed the notable upward trend indicated upon the diagram. (P. 191.) Perhaps the most striking feature of this graph is the manner in which the upward movement of prices has coincided with the downward course of bonds. It is evident that in general such a rise of commodity prices must greatly curtail the volume of savings of the people concerned. Surplus income available for investment must steadily dwindle; unless, as almost never happens, salaries and wages rise *pari passu* with the increase in the cost of living. Bonds represent the investment of these surplus funds; so that any reduction in ability to save, must find reflection in a lessened demand for securities. But the effect of the rise of commodity prices has operated even more particularly to bring about this result in recent years. Changes in general commodity prices have been most unevenly distributed, especially as between raw materials and manufactured goods. Agricultural products, with pressure of population upon the earth's surface, have risen phenomenally; while industrial progress has tended to retard the upward movement in the price of manufactured goods. This has enabled many of the less highly developed nations to absorb an undue proportion of the world's output of gold. Many of these outlying countries have thus withdrawn gold in large amounts from Europe. It has been estimated that more than half of the gold mined since 1906 has been taken in this way. The resultant increase in the value of gold in European countries particularly, has led to heavy withdrawals of investment from the United States. It seems to be the cumulative effect of such general and particular changes in the value of money which lies at the root of the decline in bond prices.

A change in the value of money is the only factor which causes the market quotations for bonds to move in a distinctly different way from that for stocks. The remaining influences are common to both groups of securities in large measure. Nevertheless, sufficient contrast obtains in certain details to make it worth while to review the situation. So far as the effect of a rise in prices upon wage increases and enhanced cost of operation for railroads are concerned, stocks suffered as well as bonds from steadily declining net revenues. Certain conditions appear, however, as a result of the keen competition for capital in the investor's field, giving rise in fact to the economic phenomena of non-competing groups. Given a certain volume of surplus income awaiting investment, business extension which is apt to follow in the train of rising prices, naturally withdraws a considerable volume of this capital from possible investment in bonds. Even more particularly, the growth of great industrial combinations since 1900 has injected a large aggregate of industrial bonds and preferred stocks of the so-called trusts which make an effective appeal to conservative investors. Great public works, such as the Panama Canal and the enlarged Erie waterway, together with the growth of expensive armaments and general governmental extravagance, all serve to lower the capital available for the purchase of railroad bonds. The United States has also been seriously affected in recent years by heavy withdrawals of European capital. Much liquidation of foreign-held American bonds took place, particularly on the outbreak of the Balkan War midway of 1912 and of the European wars two years later. This considerable movement, which threw upon our markets large quantities of railroad bonds, was due to the higher rate of interest which European investors could obtain on investments, governmental or other, at home. It was this same competition from favorite home securities which brought about the surprising decline in the older government bonds abroad. Most of these last-mentioned circumstances, it will be observed,

were far more potent in their effect upon bond prices than upon those of stocks. The result, in brief, was that by the end of 1913 the old standard 4 per cent. general mortgage railroad bond had been practically superseded by new issues which could not be floated for less than 4½ per cent. or even more.[1]

Finally, almost utter stagnation in investment demand, quite apart from the preceding influences, must be held accountable for the downward trend of the prices of both railroad stocks and bonds. It is the conservative investor interested in bonds who has been perhaps most influenced by agitation over government ownership of the telephone and railroads; over the active programme of Federal prosecution of industrial combinations; and such other manifestations of public hostility to big business as have made their appearance within the last few years. The objection to the payment even of banker's commissions on bond issues is yet another manifestation of this public spirit. The stagnation in investment demand has peculiarly affected the bond market in yet another way. The savings banks and life insurance companies used to be prominent buyers of securities. Savings banks, where strictly supervised as in Massachusetts and New York, are debarred by law from investing in any bonds of doubtful security; and the unfortunate collapse of several large railroads, formerly highly esteemed for investment purposes, has tended to eliminate savings banks in part from among the ready purchasers of securities of this class. An appreciable increase in purchase of government bonds has been accompanied by a positive decline in the holdings of railroad bonds and notes. As for the life insurance companies, they, too, since the New York investigation of 1905, have absorbed very much smaller proportions of railroad securities than formerly; and are actually

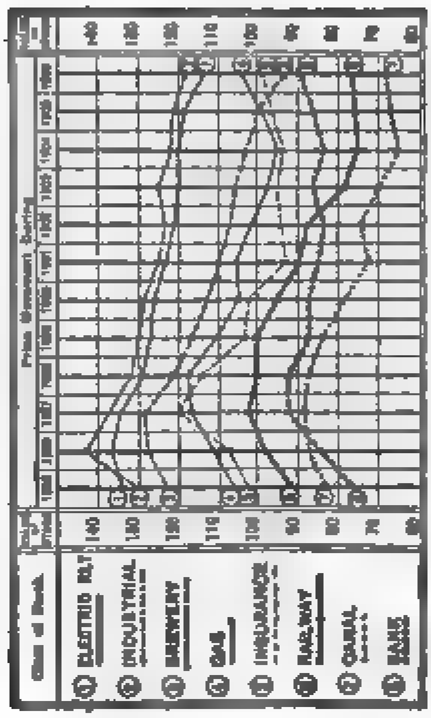
[1] For the passing of the 4 per cent. bond in the American market, consult Osborne, Speculation, etc., *Columbia University Studies*, vol. LVI, 1913, p. 58.

under orders to dispose of all of their holdings of railroad stocks within a short term of years. The lessened demand from insurance companies in the investment market is also due to the growing habit of borrowing by policy holders on the security of their insurance policies. Higher cost of living coupled with greater improvidence, has reduced the surplus for outside investment by the life insurance companies themselves. Such purchases by life insurance companies used to be particularly serviceable in steadying the market during times of depression; for panic periods with bargain prices were harvest times for all purchasers possessed of ready cash. Such were the life insurance companies, by virtue of the fact that their income from premiums, being based upon the fixed laws of mortality, moved with a deliberation and regularity not found in other lines of business. The reduction in this life insurance demand has without doubt contributed appreciably to the general decline in market quotations. The special plea made by the railroads of the country to President Wilson in the fall of 1914 on behalf of their reopened case for advanced rates, stated that over five hundred million dollars of railroad securities would mature within a year. The problem of renewing these obligations in the face of prevailing bond conditions was one certainly calculated to cause apprehension enough in any event. The almost certain effect of the European wars in increasing the interest rate on capital, because of the great waste of fixed assets, seems bound to add to the difficulty.

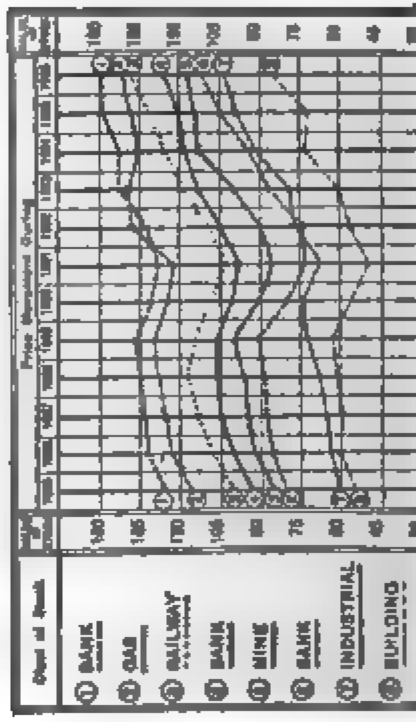
Comparison between the course of prices for different classes of railroad securities and the movement of commodity prices is afforded by the diagram on p. 191. It is significant in the light of the foregoing discussion of fundamental economic influences at work. The upper curve for forty common stocks of railroads, in soaring so far above the others since 1900, represents the equities, real or speculative, which the prosperity of these years produced. The far greater enhancement of prices than for the ten dividend-paying stocks was due to the

hopes and promises of many of the inherently speculative securities. The subsequent decline on the appearance of adversity is of course equally marked. In the meantime the

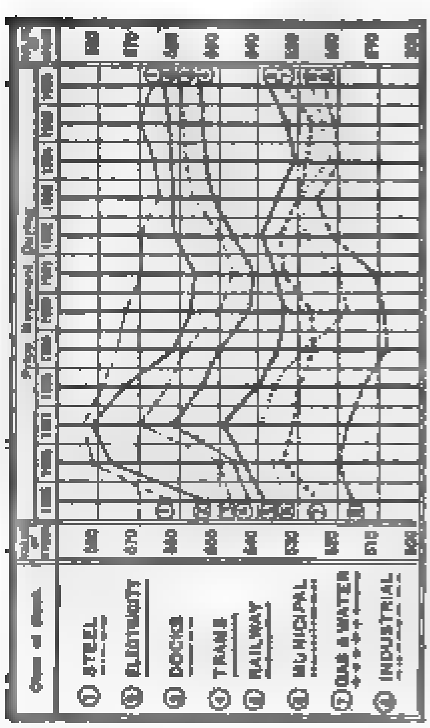
1.—GREAT BRITAIN (General Investments).



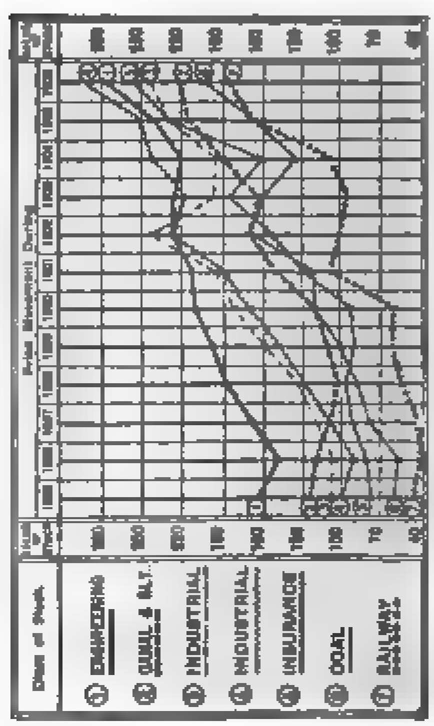
GERMANY.



FRANCE



UNITED STATES OF AMERICA.



standard dividend payers progressed far more soberly and in consequence were less notably depressed by the later discouraging tendencies. And then, too, the contrary movement

of commodity and railroad bond prices, already discussed, is thrown into relief. For, as we have already seen, while commodity prices have moved strongly upward, bond quotations for a decade to 1914 moved in the opposite direction.[1]

A significant side-light upon the course of security prices is afforded by international comparisons. The marked variety of experience in different countries affords the basic support for the principle of a wide distribution of investment in order to scatter risks.[2] The accompanying diagrams for chosen securities in four leading countries emphasize this point. It will be noted that the trend in the United States has been strongly upward; in Germany the enhancement of prices has been less marked, with a notable depression in 1901 apparent nowhere else except in France. The French price movement for railways has been slightly downward; while the progressive depreciation of British railway investments has been extreme. Such international comparisons, rough and fragmentary as they are, afford an interesting background for the examination of the course of events in our own country.

[1] The significant contrariety between bond and commodity prices is by the use of a somewhat exaggerated scale shown diagrammatically in the Annual Financial and Export Review of the N. Y. *Globe*, Jan. 10, 1914. *Cf.* also bond prices since 1856 in Chamberlain, The Principles of Bond Investment, p. 473.

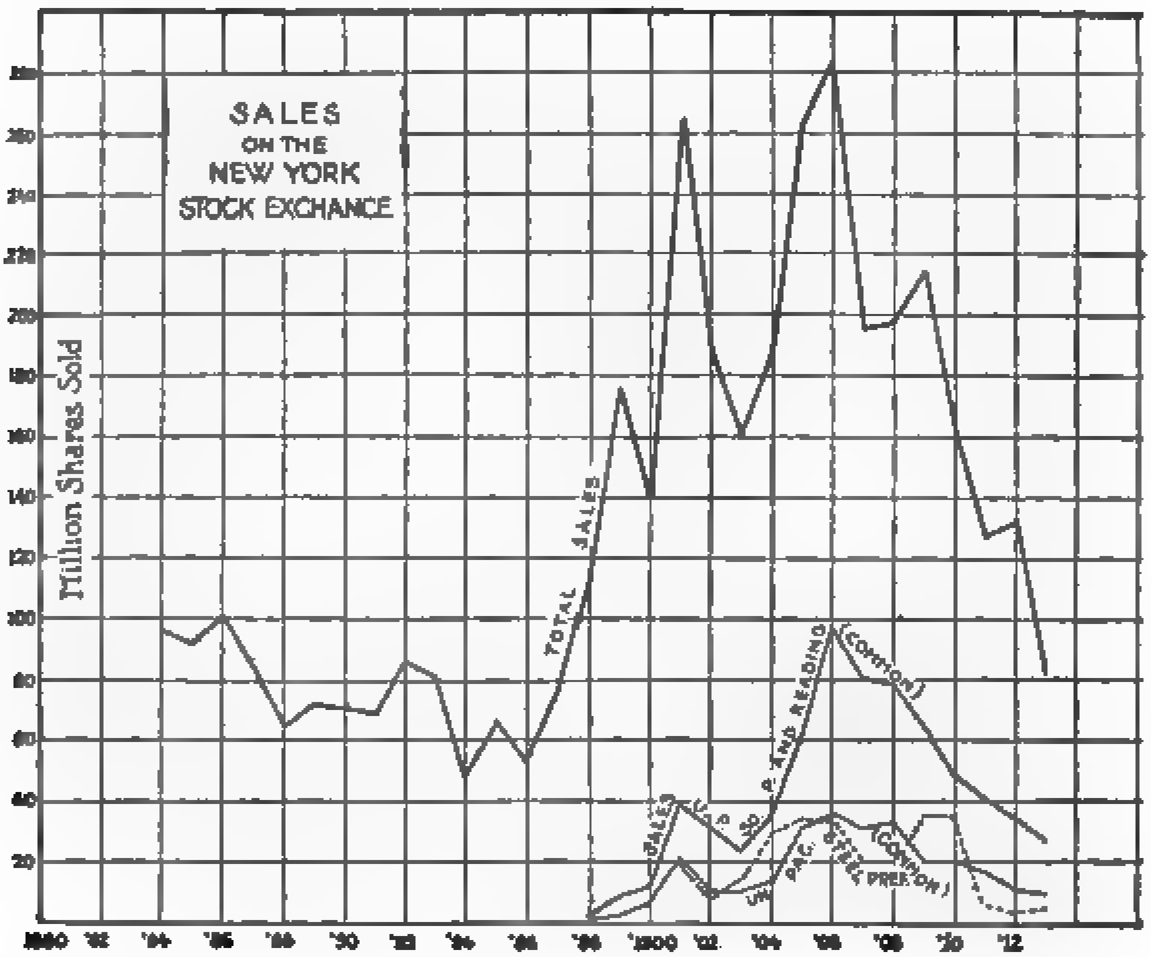
[2] H. Lowenfeld, Investment an Exact Science, enl. ed., p. 30. *Cf.* also his All about Investment, 1909; and *Financial Universe*, serially. The American securities are, however, not representative.

CHAPTER VI

SPECULATION

It is inevitable that in a relatively new and rapidly growing country, like the United States, speculation in railroads, as the chief agency in its industrial advancement, should be more common than in Europe. Risks must be run by hardy pioneers; and the rewards and losses attendant upon success or failure must be correspondingly large. Yet one might properly anticipate that with the passing of the pioneer stage a more settled order of business would ensue. It is a striking fact that this is not so. At no time in our history have stock exchange operations in railroad shares been carried on both absolutely and relatively upon any such scale of magnitude as during the decade to 1910. This is perhaps the more remarkable in view of the coincidently great development and activity of speculation in the shares of the great industrial combinations. Speculation has not been continuously rampant of course. Periods of extreme dulness have often prevailed. But such wild outbreaks of general public interest as occurred in April, 1901, January, 1903, October-November, 1904, November-December, 1905, and August, 1906, are certainly unprecedented in our history. And that organized manipulation by powerful

groups of railway capitalists has been a potent factor in this field is beyond dispute. Of course the kaleidoscopic changes of the railroad map due to rearrangement of the great transportation systems have centred much of this activity upon certain companies; but all alike have been affected to a certain



degree. Happily there are indications that with the probable settlement of many of the larger problems in consolidation, and with the passing of some of the more daring leaders, this period may now be viewed retrospectively as more or less of a closed chapter in our economic history.

The course of speculation during the last quarter century is illustrated by the accompanying chart, showing the number of transactions annually upon the New York stock exchange. This diagram, like all others dealing with finance, portrays the extraordinary change in general conditions which has supervened since the panic period of 1893–'97. A total of eighty to

The distinctive character of the speculative period succeeding 1900 is thrown into sharp relief by the course of events since 1908. The drop of the curves on the accompanying diagrams affords eloquent testimony to the speculative dulness which succeeded this upheaval. The closing days of 1913 were the quietest on the New York stock exchange since 1888. Average dealings fell even below the stagnant period of the depression of 1894–'95. Many of the old speculative leaders — Harriman, Morgan, Gates and Hawley — had died. Even had they been alive, however, it is doubtful whether the public could have been galvanized into activity. The total sales of the New York exchange for the entire month of November, 1913, but slightly exceeded the transactions on the single closing day of April, 1901, above-mentioned. Million-share days had steadily decreased in frequency. There were 18 in 1906; in 1907, 42; in 1910, 24; and in 1911, 12. They practically disappeared in the next two years. The amount of trading was thus unprecedentedly small. The absence of speculation was also evidenced by the extreme breadth of the market, such as it was. No less than three-eighths of the sales, to be sure, still consisted of Union Pacific, Steel and Reading stocks; but this was far less than the customary proportion. The middle line on the next diagram, on the other hand, makes it appear as if the Harriman and Reading stocks together were rather more than less prominent, proportionately during the dull times. The fact that in so limited a market, 265 different issues of shares could change hands within a week in November, 1913, established a new record for breadth of trading.

The march of events since 1898 for different classes of railroad securities is set forth upon a second diagram. Dealings in typical stocks are shown by separate curves. Most notable, of course, are the speculative leaders, Union Pacific and Reading common. The sharp contrast between the speculative "booms" of 1901 and 1906 is at once evident. Reading became the leader in the latter year; although activity in Union Pacific common

& Ohio had fallen into line. And in the following year, the movement extended to the transcontinental group, led, of course, by the Union Pacific. In this latter company, whereas for 1899 dealings did not average over 100,000 shares in a week, they culminated in the first week of May, 1901, in a total of 1,980,000 shares. This was a volume of transactions almost equal to twice the entire capital stock. On April 24, 1901, no less than 652,000 shares of Union Pacific changed hands in a single session of five hours. The classic Erie was entirely supplanted by the Harriman company. Such specialized activity fomented a speculative craze all along the line. The aggregate of dealings in particular companies during the calendar year is shown by the following table.

	Shares		
	Sold	Outstanding	Times sold
Atchison	12,100,000	1,020,000	12
St. Paul	12,500,000	558,000	22¾
Rock Island	8,100,000	600,000	13⅓
Erie	11,300,000	1,123,470	10
New York Central	2,800,000	1,150,000	2½
Northern Pacific	5,000,000	800,000	6¼
Pennsylvania	5,800,000	4,069,300	1⅓
Reading (common)	5,500,000	1,398,000	3½
Southern Pacific	11,300,000	1,978,000	5¾
Union Pacific	22,400,000	1,045,000	21¼
Wabash (pref.)	3,000,000	240,000	10½

Thus was the fashion set for "million-share days." For the week before May 9 they averaged nearly twice that figure; and on April 30, 3,200,000 shares changed hands in a single stock exchange session. Only once before, in December, 1886, had a million-share day occurred. High-water mark seemed thus to have been reached. And yet the year 1906 carried the yearly total of transactions to an even higher point.

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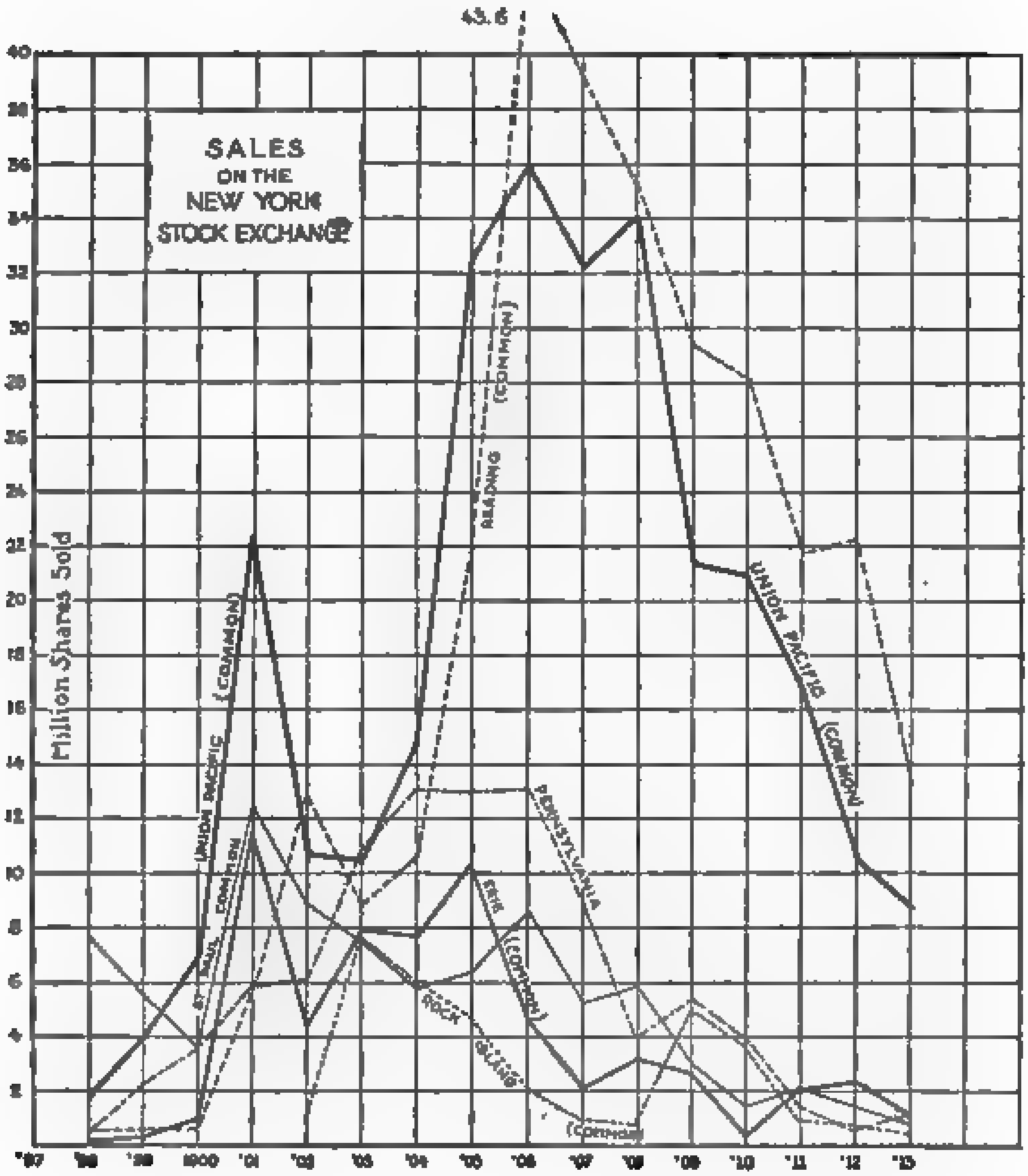
stock reached its climax, and held the centre of the stage somewhat longer. More than forty-three million shares of Reading common stock changed hands in 1906; in other words, its com-



mon share capital was sold thirty-one times over within a twelvemonth. The "commodities clause" of the Hepburn Act offered the occasion; but the real cause lay in the absolute mystery which attached to every act of a company so financially involved in structure. An irresistible temptation to speculation was afforded both from within and without. Most of the other railroads, Erie, Rock Island, St. Paul, and Atchison appear to

have exhausted their energies in 1901, and responded but feebly in 1906 to renewed manipulation. Moreover, some of these roads, notably the St. Paul and Atchison, evidently were passing out of the erratic speculative stage and into the calmer zone of investment. The entire collapse of speculative interest in Rock Island and Erie at this time appears to be due to public appreciation of the permanent worthlessness of their common capital stocks as waterlogged concerns. The position of Pennsylvania shares is peculiar and puzzling. As a substantial investment company it would seem to have become involved in speculation largely because of the difficult financing of the New York terminal developments during this period. Yet there can be no doubt that all of the more conservative and reputable roads were more or less affected by the prevailing furor. Especially was this the case in trunk line territory; where the problem of control of all the minor companies by the Pennsylvania and Vanderbilt interests was being worked out; and, of course, was of necessity being done in secret so far as the general public was concerned.

Various recent changes in fashion of investment have coincidently tended of late to promote greater activity in speculation in bonds. Foremost among these are the income bonds created during the reorganizations of 1896–'97. Thus, during 1901 the Mexican Central first income 3s were handled more than twice over. The uncertainty, even at best, of forecasting the time when interest may be paid, with the added chance of changes of policy as to maintenance or of manipulation of accounts, as in the recent Central of Georgia case, renders such issues peculiarly liable to change.[1] The debenture bond, without its right of foreclosure, leaving it merely as a prior lien on earnings instead of assets, is a more sensitive creature than an old-time bond. And most important of all, the widespread resort to convertible bonds of late years extends the natural susceptibility of stocks to changes of wind or weather

[1] *Cf.* pp. 77 and 140, *supra.*

into the domain of funded obligations. Such securities as the Baltimore & Ohio convertible 4s and especially the various Union Pacific convertible bond issues and the Oregon Short Line Participating 4s of 1904, all necessarily follow at a modest distance the fluctuations of the stocks upon whose welfare their own future depends. Such phases of recent financing have served to counteract the steadying influences upon bond values of the passing of even the memories of the great bankruptcies of 1893–'97.

Single traders in a time like 1901, and to a considerable degree ever since, may deal in a hundred thousand shares in a day; and small pools may handle several times that amount. The number who, single handed, operate to the extent of 15,000–25,000 shares in a day is said to be considerable. An episode of December 27, 1909, was illuminating, not only in regard to the volume but the technique of such speculation. The principal, a prominent officer of the Rock Island company, distributed to each of twenty brokers an order to buy 2000 shares of his own road "at the market." Intending, of course, to distribute an equal number of identical orders to other brokers to buy, and thus to create an impression of great activity, covering up his own unbalanced dealings, he nevertheless for some reason failed to do so. The sudden unsatisfied demand for 40,000 shares rushed up the price by thirty-one points in five minutes and threw the entire exchange into an uproar. The motive in such "wash sales" was statistically shown in the evidence in the Montreal & Boston case in 1905. It appeared that the promoters of this mining company had in one day bought 94,000 shares (mainly from themselves) for $271,000, and sold 87,000 shares (mainly to the public) for $275,000. An appearance of general interest in the stock was thus created; and on the basis of it the quotations were "washed" up from $1 to $2.50 per share. Meantime they were being quietly unloaded upon the public at the inflated price.

The well-known manipulation of quotations for Rock Island securities finds a counterpart in subsequent pool operations in Reading stocks. The highly involved corporate organization of this company, as has already been suggested, the facility with which its actual financial status may be concealed by expert accounting, the "commodities clause" of the Act of 1906, the prolonged litigation over the standing of the anthracite coal combination under the Sherman Act, periodic threats and rumors of strikes in the mines, possible segregation of accumulated reïnvestment of surplus earnings in plant through extra dividends, — all these factors have served to lend an air of portentous mystery to every movement of its shares. The extremely limited floating supply — so large a proportion of its shares being closely held for investment or else locked up in the treasuries of other trunk line roads[1] — is also a feature of moment. The rise in interest in it is manifested by the following table showing the number of transactions in Reading common by years:

Years	Shares sold	Years	Shares sold
1904	10,694,000	1909	29,342,000
1905	22,318,000	1910	28,196,000
1906	43,764,000	1911	21,900,000
1907	39,141,000	1912	22,289,000
1908	35,165,000	1913	13,674,000

The outstanding common shares numbering 1,400,000, it thus appears that its common capital stock — residuary legatee of earnings after satisfaction of the fixed demands of its preferred shares — was handled in 1904 seven and a half times over, in 1905 sixteen times over, and in 1906 thirty-one times over. The slightly flagging interest in it was revived again in the spring of 1909, when in three months its common capital was handled four times over. During the third week in April, 1909, sales of its common stock equalled one-half the total outstanding within five full working days. All this activity has naturally been accompanied by the widest and wildest ranges

[1] P. 150, *infra*.

of quotation. From 1904 below $40 per share, to more than four times that figure in 1906, its erratic course has been a source of bewilderment to all observers. More than once the violence of its changes, as when in January, 1906, it was rushed up from $139 to $164, only to fall again within a month below its former level, and within a year to $70, has seriously menaced the general stability of the New York stock exchange. Plunging, attempted cornering, manipulation of the crassest order have been carried on by what appear to be some of the most powerful speculative pools in history.

The specific form of contract entered into by the participants in these pools has several times been made public as a result of subsequent investigation.[1] In the Southern Pacific pool of 1902, to be described later, the gist of the compact was contained in the following paragraph:

"Further we hereby authorize the said agent and manager to sell at his discretion the whole or any part of the certificates purchased, and in like manner to repurchase and again sell, so buying and selling at his discretion, provided, however, that the said certificates be not sold at a price that will subject us to any loss on the entire transaction."

The agreement in the Hocking Coal pool, which, together with the one in Rock Island, collapsed in 1910, reads as follows:

"The undersigned, being desirous of purchasing at least 20,000 shares of the common stock of the Columbus & Hocking Coal and Iron Company, do hereby agree to purchase the same or so much thereof as in the opinion of the hereafter appointed managers may be deemed advisable in the proportions set opposite the respective names of the said subscribers, and we hereby appoint ———, our agent and manager, to make such purchases at such time or times before the first day of September, 1909, unless sooner dissolved by the majority of the stock subscribed, in such manner and amount, and at such prices as in his judgment shall be to our mutual advantage.

Each one signing this agreement to pay on demand for so much of said purchases as his subscription (as near as may be practicable) bears to the whole amount subscribed, as such agent or manager may require. Also to return the same amount of certificates or part thereof at any time when called for at any time before the first day of Sep-

[1] On manipulation *cf.* address of Samuel Untermyer, Annual Meeting, Amer. Econ. Ass., 1914; in *Amer. Econ. Rev.*, Supp. March, 1915.

tember, 1909, on receiving from the manager the amount paid therefor, with interest at 5 per cent. per annum. We further agree on any call from said manager to deliver to the said manager the same certificates theretofore delivered to us by him.

Further, we hereby authorize the said agent and manager to sell at his discretion the whole or any part of the certificates purchased and again buy, so buying and selling at his discretion. It is further agreed that any profits or losses incurred through the purchase and sale of said certificates shall be divided in proportion to the amount subscribed for by each one signing this agreement. No one signing this agreement shall have the right to call for a statement of accounts growing out of transactions herein authorized except on the request in writing of 60 per cent. in amount of certificates subscribed."[1]

Turning now to the consideration somewhat in detail of specific instances of speculation in railroad securities, they may perhaps best be grouped in two classes: speculation by "insiders" in shares of their own companies; and manipulation by "outsiders," either for its own sake or else with a view to wresting control from those who may be at the time in power. In both cases, the interests of the general body of shareholders are bound to be sacrificed for the benefit of a selected few. Of the two classes of speculative activity, the latter is probably less prejudicial in effect, inasmuch as the two contending parties are more apt to be evenly balanced in resources. Sooner or later, moreover, the affair is bound to become public property. In such a struggle, the ordinary stockholder becomes merely a spectator, albeit a heavily interested one, unless it happens to come about that he holds the balance of power between the contending parties. In this contingency, of course, his position is a very strong one. But in those cases of speculation where the "insider" is pitted against the general public, including the great body of other shareholders, every advantage is upon the side of the privileged directorate or administration. All others are helpless, except in so far as the courts have been able to protect the rights of minority shareholders in cases of flagrant abuse of power.

[1] Other details in Pujo Committee Report of 1913; 62nd Cong., 3rd sess., H. R. Rep., No. 1593, p. 47.

defences of this action have ever cleared the reputations of the guilty directors.[1]

Abrupt increases of dividend in connection with speculation for a rise by "insiders" are not the only means of surreptitiously taking advantage of foreknowledge of future events. Oftentimes the actual policy of the company in respect of surplus income devoted to betterments may be known only to a privileged few, the real condition of affairs being concealed by means of involved accounts. This it is which in part renders the stocks of non-dividend companies so susceptible to speculative manipulation. The necessarily low quotations of non-dividend stocks naturally offer an additional incentive; as a rise of a point or two in value of a stock which cost only $25 represents proportionately eight times as much profit as an equal rise of price of a share which cost $200. But it is unquestionably also the mystery attaching to a non-dividend security which is an aid to the professional manipulator. Chance and change — the daily bread of speculation — have no concern with a security offering a rate of constant return. Speculation has promptly shifted from the preferred to the common shares of all such roads as the Reading and Atchison, just as soon as the preferred stocks began to pay regular dividends. The Lehigh Valley road, on the other hand, was for a time speculatively interesting largely because of its unrevealed potentialities. Between 1893 and 1904 the policy was rigidly pursued of suspending dividends, even on the preferred shares, and of devoting every penny of income to development of the property; and yet, of course, no one outside of the management knew how extensive the betterment in reality was.[2] The result has been an erratic career on the stock exchanges quite equal in range of prices to the wildest antics of Reading common shares. Within the year 1910, the quotations ran up to $242, down to $125, and up again to $175. This was associated with the

[1] Daggett, Railroad Reorganization, p. 198.
[2] 21 I. C. C. Rep., 160; also p. 233, *infra*.

ful "social pool" in the stock, which did not close out its holdings at the time, overstayed the market; and suffered heavy losses during the great decline of prices which soon took place.[1]

The foregoing Union Pacific incident recalls a discreditable episode in the early days of the New York Central road. On December 19, 1868, the directors, after a midnight meeting, announced an 80 per cent. dividend in new stock and a 4 per cent. cash dividend. The *Financial Chronicle* of that day thus comments upon the episode:

> The real occasion of the dividend is to be found in the speculative operations of parties associated with the management. It is a matter well understood in the better informed circles of Wall Street, that, some few months ago, a knot of capitalists, mostly in the direction, combined for the purchase of $7,000,000 of the stock of the company; and in order to facilitate the purchase and the carrying of the stock, a loan was contracted with a London banking house upon the stock as collateral, the loan to run for two years, if necessary. The stock was systematically depressed previous to the purchase, and was bought at from 84 to 95, averaging about 90.
>
> The declaration of this dividend is the consummation of the scheme. The clique realize about 60 per cent. profit on $7,000,000 of stock, or say $4,200,000, and a family prominently connected with the road makes a still larger profit. But how has it fared with the ordinary stockholders? At the time these gentlemen formed their magnificent scheme, the stockholders outside the "ring" were not only held in utter ignorance of the private plans of the directory, but the stock was systematically depreciated below its real value, so as to frighten them into selling to the directors and their friends.
>
> This operation is a fair illustration of the manner in which directors speculate upon their exclusive knowledge of the affairs of corporations, to the injury of the non-official stockholders.

Still a third classic instance of the use of dividend increase, apparently to make a market for securities unloaded by "insiders," is the Atchison 7 per cent. dividend of 1887, increased from 6 per cent. on the very verge of bankruptcy. No elaborate

[1] The degenerate Morgan-Mellen management of the New Haven (p. 255, *infra*) seems in the main to have refrained from speculation. But, as in the Billard transactions, it clearly worked the market in furtherance of its plans. *Cf.* also p. 170, *supra*.

defences of this action have ever cleared the reputations of the guilty directors.[1]

Abrupt increases of dividend in connection with speculation for a rise by "insiders" are not the only means of surreptitiously taking advantage of foreknowledge of future events. Oftentimes the actual policy of the company in respect of surplus income devoted to betterments may be known only to a privileged few, the real condition of affairs being concealed by means of involved accounts. This it is which in part renders the stocks of non-dividend companies so susceptible to speculative manipulation. The necessarily low quotations of non-dividend stocks naturally offer an additional incentive; as a rise of a point or two in value of a stock which cost only $25 represents proportionately eight times as much profit as an equal rise of price of a share which cost $200. But it is unquestionably also the mystery attaching to a non-dividend security which is an aid to the professional manipulator. Chance and change — the daily bread of speculation — have no concern with a security offering a rate of constant return. Speculation has promptly shifted from the preferred to the common shares of all such roads as the Reading and Atchison, just as soon as the preferred stocks began to pay regular dividends. The Lehigh Valley road, on the other hand, was for a time speculatively interesting largely because of its unrevealed potentialities. Between 1893 and 1904 the policy was rigidly pursued of suspending dividends, even on the preferred shares, and of devoting every penny of income to development of the property; and yet, of course, no one outside of the management knew how extensive the betterment in reality was.[2] The result has been an erratic career on the stock exchanges quite equal in range of prices to the wildest antics of Reading common shares. Within the year 1910, the quotations ran up to $242, down to $125, and up again to $175. This was associated with the

[1] Daggett, Railroad Reorganization, p. 198.
[2] 21 I. C. C. Rep., 160; also p. 233, *infra*.

Pearson-Farquhar plans, subsequently described, for an ocean-to-ocean line, which would have entailed extensive issues of new stock as well as greatly increased dividends. Meantime the general body of stockholders and the public remained in practical ignorance of the meaning of it all. The highly involved intercorporate accounts of the Rock Island company, especially prior to their simplification in 1906, undoubtedly promoted its speculative activity for the same reason.

A merely negative policy of secrecy in administration only differs in degree from one of positive deception. Entirely fictitious statements as to earnings may be effectively utilized by "inside" speculators for a rise. Herein lies the possible advantage of even temporary control of a property, held, if necessary, by means of operations on margin, instead of by actual ownership. Prior to the careful analyses of expense accounts, prescribed by the Interstate Commerce Commission, it was always possible to "skin" a road, that is to say, to postpone the customary and in the long run necessary outlay for maintenance. Savings thus effected could be utilized for enlarged dividend disbursements. On the strength of this showing, the speculators could dispose of their holdings at a profit, and leave the road practically gutted. In the old days a fictitious appearance of prosperity might easily be created by sending out orders to get traffic at any cost; thereby producing large gross revenues, and at the same time reducing maintenance expenses in the same proportion as the rates were cut. Net earnings would rise with the enlarged gross revenues, but the property, of course, would be steadily depreciating in condition. Such were the tactics charged against the old Atchison management in 1890, in order to enable the then-embarrassed Barings to unload their heavy investment in the road. Such action they were compelled to take in an endeavor to avert a collapse of their South American enterprises. Such also was the programme apparently threatened by the Gates syndicate in 1902, while temporarily in control of the Louisville

& Nashville road. A general disturbance of the entire rate situation in the South promptly forced the bankers responsible for the southern system and other roads in that territory to take over the property from the Gates syndicate at a large profit.

The series of events leading up to the collapse of both the Baltimore & Ohio and Atchison roads in the '90s affords instructive examples of deliberate falsification of accounts by "insiders" in order to create a market in which to unload upon the public.[1] In the case of the Atchison, income was apparently overstated during four years to 1893 by more than $7,000,000 in the aggregate. Of this sum nearly $4,000,000 consisted of rebate accounts, carried as an asset but having no value whatever. Ordinary expenditures were charged to capital account; uncollectible traffic balances were carried as assets; and arbitrary additions to earnings were made under orders from the East. Annual deficits, in one year no less than $3,000,000, were thus covered up; and an exhibit of steadily increasing earnings was publicly made. The revelations in 1896 in connection with the reorganization of the Baltimore & Ohio road were no less scandalous. During seven years and two months, dividends amounting to $6,269,000 had been declared, of which expert accountants averred that less than a million had really been earned. Net earnings had been systematically overstated, operating expenses had been charged to capital account as new construction; depreciation had been inadequately charged off by manipulation of profit and loss account; and, in the meantime, new capital had been issued to the amount of $50,000,000, and floating debt had risen from $3,500,000 to $16,000,000, without any corresponding new investment in the property.

Deception amounting practically to a fraud upon stockholders, and seemingly not unconnected with "inside" specula-

[1] Details in Daggett, Railroad Reorganization, *Harvard Economic Studies*, 1908, pp. 21 and 208.

tion, has recurred several times in recent years. When in 1905 the voting trust on the Kansas City Southern Railway, set up in 1900, expired by limitation, the stockholders coming into possession of their property discovered that it was almost completely gutted.[1] Much the same situation on a larger scale was disclosed by the bondholders' investigation of the Rock Island in 1914.[2] The St. Paul episode of 1910 was slightly different; but at all events coincidently, if not wilfully, invited stock market activity. For, as we have already seen,[3] as a result of deliberate manipulation of accounts the price of the common stock ran from $113 up to $133, only to drop sharply back soon afterward, and finally to fall below par in 1912.

The history of the Cincinnati, Hamilton & Dayton road affords illuminating evidence of the disastrous effects upon a company of a series of speculative managements; managements, that is to say, chiefly interested in temporary control for purposes of speculation and sale to others, rather than of permanent development. Before it was first scuttled in 1886, it was conservatively financed, and was regularly paying dividends. Its shares were selling at or near par. At this time a New York banker named Ives purchased control by means of the well-known stock exchange device of pyramiding.[4] Using each purchase of stock as collateral for loans with which to purchase more stocks, the price was run up to $150 per share, and by systematic manipulation was held near that figure. It is obvious that failure to support the price would lead to calls for more margin and thus bring about utter collapse of the artificial control. Branch roads were then purchased and heavy bond issues by them were floated by means of guarantees by the parent company. Ambitious projects for

[1] 5th Ann. Rep., 1905; summarized in Meade, Corporation Finance, p. 217.

[2] P. 236, *infra*.

[3] P. 23, *supra*.

[4] *Bradstreets*, vol. XV, p. 552, gives a good summary of these transactions.

extension to St. Louis, as a formidable competitor of the Baltimore & Ohio, almost forced that company into its purchase, just as the West Shore road was unloaded upon the New York Central, and the Louisville & Nashville in 1902 was forced upon the Atlantic Coast Line. The scope and outcome of this Dayton project are best described in the annual report of the road for 1888.

At this date [June, 1886] the capital stock of your company was $3,500,000 common and $1,000,000 preferred. When Mr. Stayner and Mr. Ives resigned the presidency and vice-presidency respectively, August 9, 1887, the capital stock outstanding, as they stated it, had been increased to $4,000,000 common, and $11,000,000 preferred bearing 4 per cent.

The bonded debt of the company June 15, 1886, outstanding was $996,000 7 per cent., $1,434,000 6 per cent. and $400,000 5 per cent. consolidated sinking fund bonds. This debt had been increased at August 9, 1887, by $64,000 consolidated sinking fund 5 per cent. bonds and $2,000,000 second mortgage 4½ per cent. fifty-year bonds.

To represent this enormous increase of liability and conversion and appropriation of securities owned by the company, amounting in the aggregate to about $14,500,000 par value, your company, August 9, 1887, had betterments of its road, real estate and additional equipment representing an expenditure of less than one million dollars. Your company had in addition credit on the books of Henry S. Ives & Co. for a deposit of upwards of $12,000,000, subject to check on demand, but when the firm of H. S. Ives & Co. made an assignment for the benfit of creditors, August 11, 1887, the assets of that firm included less than $1,000 in cash.

But the unhappy history of the Dayton road does not stop at this point. Its later manipulation has mainly had to do with repeated attempts to turn it over to some of the trunk lines, always, of course, at a profit. Within three years prior to 1905, the road was passed in succession through the hands of no less than four syndicates. The first pool was originally formed in 1902 to purchase the Père Marquette road, which ran crosswise of the main trunk lines up into Michigan. The plan was, by threat of extending it east and west to Buffalo and Chicago, to force it upon the Vanderbilt roads at a profit. This project failed, leaving the bankers with a heavy burden

of unsalable and non-dividend paying securities. In the meantime another independent cross line, the Chicago, Cincinnati & Louisville, had been constructed almost into Chicago by a second syndicate. A third pool already controlled the Dayton road. These three groups all overlapped in membership. All parties finally decided to join forces. The Père Marquette was sold to the Dayton road, by payment in Dayton bonds and notes at the rate of $125 for Marquette stock which had cost $85 per share. This recompensed the first syndicate liberally. The second syndicate, which had built the line toward Chicago, was paid for its services in Marquette notes. The third syndicate, controlling the Dayton road, now made its profit in turn by selling the combined properties to a fourth syndicate in 1904. And it was this interest which so nearly succeeded in disposing of the road to the Erie at $160 per share in the following year. This was brought about by threats to turn the entire property over to the so-called Hawley interests, which were engaged at the time in piecing together various odds and ends in trunk-line territory.[1] Fortunately the Erie management discovered the true state of affairs in time, and all arrangements for merger were abrogated.[2] At last the Baltimore & Ohio in 1911 agreed to take the Dayton; and within three years poured $21,000,000 into its depleted coffers while still the deficits went on increasing year by year. The sum of $11,200,000 had to be charged off as loss on the Père Marquette purchase alone. Thus did the improper profits of the bankers, as usual, come home to roost on the shoulders of the public.[3]

Turning next to speculation by "outsiders," in order either to gain control of a company from others, or else merely to

[1] P. 532, *infra*.

[2] Other examples of manipulation by speculative "insiders" will be found on p. 381, *infra*, in connection with the reorganization of the Richmond Terminal Company; and on p. 249, *infra*, in the Kansas-Union Pacific merger. The recent "Frisco" affair is described at p. 41, *supra*.

[3] I. C. C. investigation, May 20, 1914.

manipulate prices in their own interest, a typical example is afforded by the Keene Southern Pacific pool of 1902.[1] This episode is significant as showing the sort of attack which interests in control of a road must be at all times ready to repel, unless they actually control the property by ownership of a majority of the voting shares. The general situation must first be understood in order to comprehend the plan of campaign. The Union Pacific road, then in process of reconstruction, ended at Ogden, Utah. It was dependent for its through connection to San Francisco upon the Central Pacific road, which was a part of the Southern Pacific system. In order to acquire this necessary link in the transcontinental chain, the Union Pacific in 1901 purchased a practically controlling interest in the Southern Pacific, although it was considerably short of a majority of the shares outstanding. But the major part of this extended system, reaching through Southern California to New Orleans, seemed at the time to be quite a distinct property, for transportation purposes, from the small portion needed by the Union Pacific to complete its direct through line to the Golden Gate. The Union Pacific company at once caused its recent acquisition to embark upon an extensive programme of betterments. No dividends were paid by the Southern Pacific, in order that all net revenue (and there was a substantial amount of it) might be devoted to upbuilding the property. Nevertheless, just as in the case of the Lehigh Valley road, the actual extent of this rehabilitation and improvement remained for the general public largely a matter of conjecture.

The Keene pool, as appeared in the course of subsequent litigation, was dated January 29, 1902, and was to be continued until April 1, 1903. It was to become operative upon the purchase of 200,000 shares of Southern Pacific stock, which

[1] The following account is based upon litigation lasting throughout 1903, testimony in which was currently reported in the financial and railway journals.

amount might be increased to 400,000 shares. As there were only 1,970,000 shares outstanding, and as the Union Pacific had only acquired 750,000 shares from the Huntington and other estates in 1901, such concentration of ownership in other hands was a matter of some importance. As a matter of fact, it appeared later that some 244,000 shares were actually acquired. The form of pooling contract adopted was much like that in the Hocking Valley Coal pool, which has already been described. Having acquired this substantial proportion of the capital stock, the next step was to bring about a rise in its market quotations in order to unload upon the public. There is no evidence at all of an intention to continue the investment in the stock. Much of it in fact was not really owned, but was merely carried on margin. The plan was simple. The Southern Pacific company was to be forced to modify its programme of devoting all net income to betterments; and was to be compelled to begin payment of dividends upon its capital stock. Such action would obviously serve the purpose. An elaborate campaign of publicity was then inaugurated. It was alleged that the Union Pacific was not really upbuilding the entire Southern Pacific road at all, but was merely "fattening" the Central Pacific link, in order at the proper time to cut it off and turn it over to the controlling company, thus completing the Union Pacific direct line to the coast. This in turn led to a spirited contest for control of the next annual meeting, recalling in many respects the struggle over the Illinois Central in 1907. Injunctions were sought to prevent the Union Pacific from voting on its 750,000 shares of Southern Pacific stock at the annual meeting on April 8, 1903, — only two days, by the way, prior to the original date of expiration of the pool. This action failed.[1] In the meantime the Harriman party had succeeded in accumulating enough proxies from other stockholders

[1] A secret transfer of 300,000 shares of Southern Pacific from Harriman to William Rockefeller was made with an agreement for resale. A flood of stock from this unknown source broke the Keene pool, it is said.

to insure their control. Thus balked in its programme, the pool was compelled to liquidate its holdings. This it did in the rapidly declining market of 1903, at very heavy loss. It was estimated at the time that the holdings which had cost about $16,700,000 were closed out at a loss to the pool members of approximately $3,000,000. Thus ended the chapter, about as disastrously as the Reading pool in 1906.

In form precisely like the Southern Pacific pool, although differing in outcome, was the Gates raid upon the Louisville & Nashville road in April, 1903.[1] This road being about to issue $5,000,000 of new stock, it appeared likely that the market quotations would decline substantially by reason of the increased floating supply. Many traders in consequence sold the stock "short," expecting to cover their contracts at the lower figure. The Gates pool quietly bought all the shares offered, thereby acquiring some 306,000 shares out of a total of 600,000 outstanding. With this clear majority, they forced the bankers in charge of the southern road, which could ill afford any disturbance of the rate situation, to take it off their hands. The pool appears to have profited handsomely by the transaction, having acquired 102,000 shares for less than $110 per share and the balance at $125; and then having turned it over to J. P. Morgan & Co. at about $130 per share for the first lot, and $150 per share for the second. It was then placed in the hands of the Atlantic Coast Line company "for safe keeping" at $160 per share. In much the same way and at about the same time, the Monon line from Louisville and Chicago was bought up by a speculative pool and finally turned over for joint control to the Southern and the Louisville & Nashville roads.[2] Such episodes as these are not only illuminating in themselves, but they serve to explain the extraordinary

[1] This transaction was investigated upon complaint of the Kentucky Railroad Commission by the Interstate Commerce Commission in 1902–'03. The complaint and answers are reprinted in the 23rd Annual Report of the Railroad Commission of Kentucky. *Cf.* p. 489, *infra.*

[2] A. D. Noyes in the *Forum,* Oct. 1902, p. 204.

fervor of speculation which, as we have already seen, culminated at about this time.

The speculative acquisition of the Boston & Maine Railroad by President McLeod of the Reading road in 1892, however laudable the desired end in view for his company may have been, reveals the hazards of such modes of finance.[1] Early in that year, shares of the New York & New England and Boston & Maine companies began to advance mysteriously, and in October virtual control of both by the Reading was expressed through the election of McLeod as president. The operation was difficult to understand, as the Reading had always been impecunious and was then in a peculiarly precarious condition. On February 20, 1893, it suddenly went into bankruptcy. The story is succinctly told in the report of the directors in the following January. In substance it was a case of speculation "on margin," and of the margin having been "wiped out."

On the 25th day of October, 1892, President McLeod authorized the purchase of shares in the New York & New England Railroad Company, and ultimately 32,000 shares were acquired. President McLeod originally put up his own securities as collateral to protect the purchasing brokers. Subsequently, as collateral to secure these purchases, President McLeod, without having previously obtained the authority of the board of managers, drew from the treasury of the company and pledged the following securities [treasury securities enumerated].

The fact of the withdrawal and use of the securities was first formally brought to the attention of the board on December 14. On December 24 resolutions were passed ratifying the action of Mr. McLeod and indemnifying him for advances made on his individual account to the extent of $400,000. Messrs. F. H. Prince & Co. and Messrs. Ervin & Co. [the brokers through whom the purchases were made] subsequently gave notice of their intention to sell the shares for the purpose of reimbursing their advances, and ultimately, in pursuance of such notice, all of the shares were sold. After crediting the company with the net proceeds of sale, the total loss on the Boston &

[1] U. S. Industrial Commission, vol. IX, pp. 561–576, contains testimony on the subject. Daggett, Railroad Reorganization, p. 123 *et seq.*, traces its effect upon the Reading company. *Bradstreets*, vols. XX and XXI, contain many additional details.

Maine Railroad stock was $918,008.09, and on the New York & New England stock $553,996.15, or a total of $1,472,004.24.

The most recent spectacular collapse of an ambitious attempt to create a transcontinental railway line on the basis of borrowed money occurred in July, 1910.[1] From some unrevealed source large blocks of railroad stocks had been pressed for sale upon the exchanges for some weeks. It had been known since January that some mysterious pool had been quietly accumulating large holdings in various roads, especially of the Rock Island company. The shares in other apparently unrelated properties, like the Lehigh Valley, had also been advancing sharply. The entire plan was disclosed when suddenly it was announced on July 28 that an English syndicate, heavily interested in a chain of roads from the Atlantic to the Pacific, had been forced by the steady decline in quotations to transfer all its holdings *en bloc* to a leading American banking house. The nucleus of the transcontinental system was to have been the Rock Island. It was to have been carried to the west by the Denver & Rio Grande, a supposedly Gould property, which in turn controlled the recently completed Western Pacific road to the coast. But in order to hold these, the Missouri Pacific had also to be included. Eastward, the line was to be made up of the Wabash and the Lehigh Valley roads to Atlantic tide water. No details have ever reached the public. But it was rumored that an investment of approximately $30,000,000 was finally liquidated for about half that sum. Had the affair not been terminated by private arrangement, in other words, had this huge volume of securities been openly forced upon an already over-loaded market, a disastrous panic might have been precipitated.

A common mode of protection against the raids of outside speculative cliques is the creation of a voting trust.[2] With a

[1] The financial journals of July 28, 1910, and the following week abound in descriptive matter.

[2] *Cf.* Daggett, *op. cit.;* and the *Yale Law Journal,* vol. XIII, 1904.

body of trustees, commonly five in number, all shares of capital stock are deposited, in exchange for so-called voting trust certificates. The important point, however, is that such exchange of securities is for a stated period of time; and vests all voting power on the stock in the hands of the trustees. This assures stability of control and continuity in policy. It has been a common feature of most of the great railroad reorganizations in recent years. Some voting trusts have been continued for many years, notably on the Ontario & Western road. When entered into for an indeterminate period, only terminable upon the declaration of dividends successively for a given time, it may operate disadvantageously to shareholders; but in the long run seems to be a convenient and necessary safeguard.[1]

What remedies may be applied to check this speculative activity, in itself a menace to the safe and sane operation of the railroads of the United States? A powerful one has already been applied in the beneficent publicity features of the recent Hepburn Act of 1906, and, as still further amended in 1910, in the Mann-Elkins law.[2] "Blue Sky" legislation contributed to the same end.[3] Little more in the way of specific legislation would seem to be needed; although liberal appropriation for administrative oversight by means of expert accountants must of course be currently made by Congress. So far as checking speculation by "insiders" is concerned, the strict prescription by the Interstate Commerce Commission of the practice as to making depreciation charges would seem to be most effective. The matter technically bristles with accounting perplexities, and has been most bitterly opposed by leading railroad men. Some of this objection is more or less valid. Yet much unnecessary bitterness in discussion of the subject has been engendered by a misconception of the rules of the

[1] *Cf.*, however, the Kansas City Southern episode, p. 214, *supra*.
[2] Ripley, Railroads: Rates and Regulation, pp. 515 and 586.
[3] P. 285, *infra*.

Commission. It is alleged that the insistence upon a clear differentiation between capital and income account in the matter of charging for depreciation or for betterment and new construction, will compel the companies to capitalize all betterment work instead of caring for it in part from surplus income by charging it to operating expenses. This by no means seems to follow. No actual policy as to the form of payment to be adopted in cases of improvement work is enforced by law. The only requisite is that, whatever the policy of the road may be, it shall be made evident in the published accounts for the benefit of all parties concerned. No one can question for a moment the expediency of oftentimes adjusting maintenance outlay in some measure to the exigencies of the moment; either by postponing it in part, or, if possible, by going to the other extreme and expending freely for maintenance in order to save in direct operating cost. Not even the excuse of artificially creating a favorable income return in order to successfully float new bonds or stocks is valid or admissible in the case of most companies in normal times. The accounts should reveal to all, and especially to public authority, the precise policy which is being pursued. Padded or starved income statements have in the past been one of the most prolific sources of profit to "insiders" in the case of speculatively managed roads. Most sound roads, of course, do not resort to such practices; but laws must be drawn to meet possible offences, even if they be exceptional. It is a matter for congratulation that such manipulation is becoming increasingly more difficult under the accounting supervision of the Interstate Commerce Commission.

Beneficent in its effects, also, will be all further careful regulation of intercorporate accounting. The consolidated balance sheet, as used by the Rock Island and Reading companies, is another fecund source of evil. The classic financial reorganization of the Alton road was so adroitly covered up in the accounts, that, as has been technically shown in the *Journal*

of Accountancy, the holding company could pile up a surplus or incur a large deficit without danger of discovery. Not a trace of the very recently revealed and entirely unsuspected indebtedness of the Oregon Short Line to the Union Pacific company, to the amount of $72,000,000, could be found in the reports of either company, until the directors chose to let it be known.[1] Such things should not be. Nothing so invites speculation as mystery. Whether the so-called "insiders" profit by it or not, is not the main question. Such secrecy certainly provokes speculative manipulation in others. So far as publicity can reasonably go, it should be applied with the utmost vigor.

Speculation thrives in the main upon securities of low market value. Such low quotations are usually the result of an over-issue of securities, in other words, of capitalization more or less in excess of either physical value or earning power. A second restraining influence upon speculation in future may therefore indirectly flow from enforced publicity, so far as it puts an end to the evil known as stock-watering.[2] This form of financial abuse is much less prevalent than formerly; it is in fact now non-existent probably in the case of most of our substantial roads. Yet in so far as publicity or physical valuation may serve to restrain the excessive output of securities by a few erring companies, speculation may reasonably be expected to diminish as a consequence.

One of the most powerful checks may ultimately be found in some prohibition of excesses in inter-railway financing. Wholesale investment of corporate funds of one railroad in stocks of other railroads, especially upon a credit basis, has been a conspicuous and unwholesome feature of the last few years. The collateral trust bond has been a useful means of accomplishing this purpose. Of course, as a means of building up a logically unified system, particularly in linking

[1] New York *Evening Post*, Financial Supplement, Oct. 1, 1910.
[2] Chap. VIII.

together naturally connecting roads into a through line, such intercorporate financing is necessary and proper. But when applied, as by the Union Pacific and the trunk line roads, to control or investment in naturally competing or even entirely remote and disconnected properties, it may become a public menace. Particularly does it invite corporate speculation, that is to say, the purchase and sale of one road by another, not as an incident to operating efficiency, but merely for the sake of profit. It is not a wholesome condition of affairs that a railroad, chartered for the conduct of transportation, should be engaged in stock exchange operations of this sort; and that a large part of its revenues should be derived either from such sources or from its investments in scattered and wholly unrelated roads. It is greatly to be hoped that the possibility of public interference to prevent such tendencies, even though fraught with the danger of crippling suitable private initiative, may be rendered more remote by greater circumspection on the part of the directors of some of these great quasi-public companies.

Positive discouragement of undue speculation in railroad securities in future may possibly also be looked for in the imposition by the states of taxes upon all stock exchange transactions.[1] A rich source of income exists therein; but the tax must, of course, be so applied as neither to hamper legitimate transactions nor to lead to escape by migration to other states. So far as it is practicable, a substantial tax upon all transfers of stock would seem to promote the general welfare, without unduly burdening the necessary processes of exchange. And finally, a healthy public sentiment which shall frown upon manipulation of stocks for private profit, especially by those who occupy positions of trust, or which views large fortunes accumulated by such means as improperly acquired, cannot fail to exercise some influence. After all is said and done, the

[1] Various other reforms, such as the revision of commission rates, are proposed in *Columbia University Studies*, vol. LVI, 1913.

high regard of one's contemporaries is among the most coveted rewards of life. The country would seem to have passed through an extraordinary period of moral awakening of late. We may perhaps never again be called upon to witness such an orgy as this last decade has revealed. The outlook is far more satisfactory in this regard than it was five years ago.

The foregoing outline of speculative manipulation of railway securities tells but a sorry tale at best. It presents the most unpleasant aspect of railroad financing, embracing a range of operations from mystification and petty deceit to utter fraud. But the conclusion must be carefully avoided that, because such offences have at times been committed, American railroad finance on the whole is unsound. Such an opinion would be absolutely unfounded. A large majority of our common carriers are certainly on the whole as honestly administered as are private businesses. Nor has the standard of integrity in the main ever been so high as it is at present. But, as always, the innocent are condemned to suffer with the guilty. No single group of persons has a deeper interest in the prevention of such breaches of trust in future than that charged with the present management of this great industry.[1]

[1] Other data will be found in the Pujo Committee Report of 1913; 62nd Cong., 3rd sess., H. R. Rep., No. 1593, pp. 33–54.

CHAPTER VII

STOCK-WATERING

STOCK-WATERING — a much abused term — may be defined as an increase of nominal capitalization of a corporation without a commensurate additional investment of funds. The baldest and simplest form — probably the one primarily responsible for the odium attached to the term by the general public — is the outright declaration of a stock or bond dividend. In this case no new capital whatever is put into the company. The new stocks or bonds are a gift to shareholders.[1] The stock dividend, as will thus be seen, fully meets the contingency of an increased, if not indeed an excessive, revenue power. It makes more generous provision for distribution of earnings in future; and in so far it saddles a heavier burden upon the patrons of the road. But it does not affect a surplus already

[1] The stock dividend is carefully to be distinguished from stock subscriptions with "rights" to shareholders — a mode of financing to be considered in the next chapter.

accumulated from heavy earnings in the past. Its effect is in no sense retroactive.

Flagrant examples of such stock dividends are scattered through our history. They occur nowadays with relative infrequency among railroads; but they were lately common among express companies and other quasi-public concerns. The 100 per cent. dividend declared by the Adams Express Company in 1898 is a case in point. In the Hepburn investigation of 1879, stock dividends by railways were prominent abuses. Sheer fraud was often practised in issuing stock for speculative purposes. Between 1868 and 1872, for example, the share capital of the Erie was increased from $17,000,000 to $78,000,000, largely for purposes of stock market manipulation. Convertible bonds were put forth in amounts "limited only by the capacity of the printing press." For this reason, in 1869, the governing board of the New York stock exchange actually refused longer to permit quotation of Erie securities.[1] On March 16, 1876, an extraordinary payment was made by the St. Paul road. A 14 per cent. dividend on the preferred stock was declared: "Seven per cent. on the net earnings of 1874 and 7 per cent. on the net earnings of 1875. This dividend is payable in consolidated sinking-fund bonds of the company." The 80 per cent. stock dividend of the New York Central in 1868; scrip dividends on the Reading during the '70s; the 50 per cent. dividend of the Atchison in 1881; the 100 per cent. stock dividend of the Louisville & Nashville in 1880, by a pen stroke adding $20,000,000 to "cost of road" upon the balance sheet; the widely-mooted 100 per cent. dividend of the Boston & Albany in 1882; the 40 per cent. Great Northern distribution of 1898; a doubling of capital by the Atlantic Coast Line in 1900, flavored with a 5 per cent. extra dividend in cash; — all these, and many more, have had much to do with instilling

[1] The Windom Committee, 1874, p. 72; Poor's Manual of Railroads, 1884; New York Chamber of Commerce Report, 1883; and the Report of the Cullom Committee, 1886, p. 51, abound in data of this period.

into the public mind the belief that stock-watering is an evil well-nigh inseparable from the business of a common carrier.

A typical example of a stock dividend, giving rise to much public feeling in a conservative community, occurred upon the Connecticut River road in 1893. This property was leased for ninety-nine years to the Boston & Maine road on a guaranteed rental of 10 per cent. dividends. In addition, by evident prearrangement, on the day of executing the lease a dividend of 50 per cent. was made to Connecticut River stockholders. This was paid by giving ten-year 4 per cent. bonds to each shareholder, equal in amount to one-half the face value of his stock holdings. This obviously saddled the Boston & Maine with the heavy burden of a 12 per cent. annual rental for the life of the lease; for, of course, it was bound to discharge this new funded debt at maturity. The effect upon the Connecticut River road was to change a bookkeeping surplus of $1,000,000 into a substantial deficit. As was officially said in a vigorous message from the Governor on the subject: "An issue of bonds to pay a stockholder's dividend is contrary to good practice and to sound principles of corporate financiering. It is safe to say no more unconscionable transaction has occurred in the railroad history of the state."[1]

Be the financial contingency, not of excessive present earnings but of an uncomfortably large surplus on hand, the stock dividend affords no relief. For the stock dividend involves no gift of cash to shareholders. What is needed, in this case, is the declaration of an extra cash dividend. This is not "stock-watering" in itself, but is apt to be a correlated event. There is no addition of new stock to be supported by future earnings. But a "plum," instead of being paid in cash, may be so given as to reduce the income of the parent company and thereby enable it less obviously to be embarrassed by riches in future.

[1] A lease in 1913 of the Northern Central to the Pennsylvania Railroad with a stock dividend of 40 per cent. and a cash dividend of 10 per cent. would appear to be a close parallel. This was long contested.

The distribution may sometimes take the form of a gift of securities in subsidiary companies. The Great Northern dividend to shareholders, in 1906, of Lake Superior ore-land certificates worth $90 on the open market, was of this sort. It has been competently estimated that, including this gift, the entire rate of return to stockholders of the road was not less than 147 per cent. within a single year. To be sure, these ore certificates were acquired through the far-sighted sagacity of a great administrator, but the effect in arousing public sentiment was very marked. Only eight years before, the same shareholders had received a 50 per cent. dividend in stock of the Seattle & Montana, which was subsequently exchanged for Great Northern shares. And substantial "rights," incident to new calls for capital, have been liberally sprinkled over the entire history of the company. The Northern Pacific road in 1908 met a similar situation by an outright cash disbursement. A substantial extra dividend of 11.25 per cent. was paid out of assets of subsidiary companies, undisclosed upon the books of the parent concern. The positive embarrassment of riches of the Union Pacific company, due to appreciation in the value of its stock holdings in other roads, was thus relieved in 1913 by an extra dividend of $33\frac{1}{3}$ per cent., made in the form of a distribution of $82,000,000 of Baltimore & Ohio stock held in its treasury.[1]

Sometimes the double complication of an unwieldy surplus and immediately and prospectively over-heavy earnings can be overcome by a single operation. Both stock and cash dividends may be combined in some manner. A prominent instance occurred on the Delaware, Lackawanna & Western. Operating under a special charter of 1849, it was protected from harassment by subsequent state legislation as to ownership or operation of coal mines. But by this same charter it was specifically forbidden to declare stock dividends. Conservatively financed in the face of enormously increased revenues

[1] Chapter XVII, *infra*.

from its anthracite coal business after 1898, it was for some years earning as high as 50 per cent. on its capital stock. Since 1906 dividends were paid at the generous rate of 20 per cent. — double the highest regular rate on any other railroad — but even this, combined with extensive appropriation of surplus earnings to betterments, left an unwieldy balance. The market value of the stock rose in consequence to about $650 per share. The accounting surplus rose to $18,790,000, or nearly two-thirds of the total of stock and bonds outstanding. The "commodities clause" of the Hepburn Act of 1906, in effect prohibiting all railroads engaged in interstate commerce from owning or operating coal mines, suggested a remedy for all its embarrassments. On July 1, 1909, an agreement was entered into with a specially organized corporation, by which all its coal was to be sold for 65 per cent. of the market price, the buyer to assume all transportation charges from the mine. Stockholders of the parent railroad were then offered the valuable right to subscribe to shares of the new coal company; and at the same time a cash dividend of 50 per cent. was declared by the railroad, to enable them to take advantage of the offer without expense to themselves. And finally, on top of all, a clear stock dividend of 15 per cent. was also given. How this last detail was reconciled with the prohibition in its ancient charter is not clear. But the 50 per cent. cash dividend and the new corporation coincidently capitalized with the proceeds thereof, were simple enough to arrange. The net result, taking the coal company shares at their first quoted market prices, was a dividend equal to 187.5 per cent. per share. This established a new record, even among the most prosperous of the anthracite coal roads. Perhaps the most extraordinary feature was that all the cash requirements of the transactions were met out of the surplus profits for the year, over and above the regular 20 per cent. dividend. This surprising fruitfulness has since been followed in 1911 by yet another 35 per cent. extra dividend. In recent years most of the other anthracite companies

have been similarly burdened with riches. The Lehigh Valley in 1912, like several of its fellows, segregated its coal properties in a separate company and made it the occasion for a generous distribution of surplus. The Reading company will doubtless also follow suit in due time.[1]

The preceding operation shows how easy it is to evade any simple prohibition by law of the declaration of stock dividends. Such a prohibition of the issue of paid-up stock for less than par is found in the Corporation Act of the state of New Jersey. But any company so disposed — the United Fruit Company, for example, twice in recent years — merely declares a cash dividend and coincidently offers its shareholders for subscription at par an equal amount of new stock. The letter of the law is fully complied with. The Pittsburg & Lake Erie followed this plan when in 1910 40 per cent., and the next year 25 per cent., extra cash dividends were declared and then made applicable to subscriptions for new stock. An extreme instance of this sort among common carriers was the 300 per cent. dividend of the Wells-Fargo Express Company in 1910. This amount in cash was distributed, coupled with the right to subscribe two-thirds of it to new stock of the company. The capital stock was thus trebled; each stockholder received 300 per cent. on the par value of his holdings in cash; and, in addition, could sell his right to subscribe to new shares for a substantial sum. The valuable "plums" and "melons" of the Pullman company and even the Lackawanna bonus were entirely eclipsed by this transaction.

Turning from the simple and direct payment of stock and cash dividends, above described, as a means of unduly increasing capitalization, attention may now be directed to analysis of the larger financial operations in connection with which stock-watering more or less indirectly takes place. No fewer than seven particular occasions present themselves as

[1] Ripley, Railroads: Rates and Regulation, p. 552, gives details.

opportune for inflation of capital issues. These are as follows: in connection with construction; through replacement of property; by division of an accumulated surplus; as a concomitant of refunding; as an incident of consolidation; as a feature of financial reorganization; and, finally, in connection with the provision of new capital through issuance of shares or bonds. It is believed that this scheme of classification comprehends practically all phases of the subject. They will be discussed in order.

Over-capitalization as an accompaniment of construction has already been discussed in our opening chapter.[1] It need not detain us further in this connection. The importance of the subject is emphasized by the proposition pending in Congress to so enlarge the jurisdiction of the Interstate Commerce Commission as to include all operations and accounts of construction companies along with operating railroads. The need of wider authority has been brought to public attention by a number of recent scandals, particularly those of the St. Paul Pacific coast (Puget sound) extension and of the St. Louis & San Francisco. A large body of experience, dating from the earliest days of railroading, has clearly proven the imminence of financial excess in this connection. The persistence of these practices is well exemplified also, although on a small scale, in a number of recent cases before the state railroad commissions.[2]

The capitalization of expenditures for replacement of property, which ought to have been paid for from income, is probably one of the most common corporate errors of the time. It has frequently engaged our attention heretofore.[3] Improper manipulation of betterment and maintenance accounts leads readily and immediately to the augmentation of capitalization without a corresponding investment of new funds. The intricacy of the subject is discovered by the case of the Kansas

[1] P. 35, *supra*.

[2] Nebraska Railway Commission, 6th Ann. Rep., 1913, p. 255; and P. S. C., Missouri, vol. I, 1913, p. 141.

[3] Pp. 21, 77 and 140, *supra*, 1 P. S. C., New York, 2nd D., 1910, p. 132.

City Southern before the Supreme Court of the United States in 1913.[1] The company desired to pay for the entire cost of a much better re-location of a part of its main line from the proceeds of a bond issue, without any deduction whatsoever for the cost or value of the old bit of line which was abandoned. This was defended on the ground that operating expenses would be so substantially reduced in consequence of the re-location as to fully support the enhanced interest charges. Both the Interstate Commerce Commission and the Supreme Court held, however, that such action amounted virtually to the payment of dividends from capital. For, the argument ran, all dividends or interest upon the securities originally issued to pay for the old line, if continued, evidently imposed two burdens upon present earnings; those, namely, associated both with the original and with the new investment. The government also made the valid plea that it was really the first investment which alone made the second one possible. This the company denied, alleging that the reduced operating expenses would fully offset the larger fixed charges.[2]

The controlling argument in the foregoing case is one which turns upon the distinction between two kinds of depreciation; namely, one due to ordinary wear and tear, and another, well termed "functional."[3] This second form of

[1] 231 U. S., 423.

[2] *Cf.* Ripley, Railroads: Rates and Regulation, p. 67. In this connection an ingenious argument against the American practice of charging betterments to income account may be mentioned. It is to the effect that capital outlay is at least subject to a greater degree of publicity than revenue expenditure; and consequently that deceptive or speculative action is more likely to be thwarted. The argument naturally has no force under our present American régime of governmentally standardized accounting. See McDermott, Railways.

[3] P. 357, *infra.*

The rapid obsolescence on American railways is well described by a leading efficiency engineer as follows:

"Roadbeds do not wear out any more, they are realigned with grade revisions; ties do not gradually decay, they are cut to pieces by the heavy traffic; rails do not last their life, they are displaced by heavier sections; stations do not wear out, they have to be torn down to make

depreciation is the "result of changes attributable to the inadequacy of the existing property to meet the demands of the future," and "therefore chargeable to future earnings," augmented avowedly by reason of the improvement. Apply this argument to the recent construction of the Lucin cut-off by the Central Pacific. At a cost of $9,000,000 a new line, 104 miles long, was run straight across the Great Salt Lake on trestles and embankments. This reduced the distance by forty-four miles and eliminated all sorts of heavy curves and grades. Assuming that the old, crooked, round-about line, built as well as the then resources permitted, represented an original and subsequent investment equal to that of the cut-off, would the rejection and dismantling of this old property under such circumstances, according to the Supreme Court's ruling, require traffic henceforth to be carried free?[1] At first blush this would appear to follow logically, inasmuch as the deduction of the amount of the old investment from the new would reduce property account to zero. But the answer to this specious argument has been already given. The old investment remains outstanding as capital — the new investment must properly be supported by its own future economies of operation. In a parallel case respecting betterments charged to income, on the Illinois Central, the Supreme Court held rightly enough that "instrumentalities that are to be used for years should not be paid for by the revenues of a day or year."[2] Whether such modes of accounting encourage piecemeal instead of root-and-branch improvement is, of course, well worth consideration.

The boundary line is indeed vague between mere neglect

way for palatial structures; round-houses are scrapped because electrical equipment has come in; locomotives used to last fifty years, the average age of locomotives in actual freight service now is not over ten years; wooden passenger cars make way for steel cars. A two-per cent. assessment made once used to be sufficient for depreciation. It is a question whether 3 per cent. a year will take care of modern obsolescence." — *Review of Reviews*, Sept., 1914.

[1] *Atlantic Monthly*, June, 1914, p. 807.

[2] 206 U. S., 441. (1907.)

to differentiate income from capital, and downright deception of others in this regard. Expenditures may be capitalized, not for real betterments but for pretended ones which ought to be paid for from earnings. Real improvements may be paid for in excess of their actual value. Or, even worse, current expenses in the form of bills payable, wages and supplies may be met by issues of interest-bearing scrip. Floating debt may be allowed to accumulate in paying current expenses, while dividends which ought to have been cut off continue to be paid; and then this floating debt may be refunded into permanent securities.[1] Is it not clear that in each instance capitalization is expanded unduly in proportion to the actual worth of the property? Such things are usually done so as to disguise the facts. But, however details may vary, the principle is fundamentally the same. The resources of the future are improperly exhausted for the benefit of the present.

Failure to charge replacement outgo to income rather than capital account has accompanied recently the financial distress of two important roads. Both affairs were deceptive in the extreme, — on the Rock Island wilfully and perhaps even fraudulently so, while on the Boston & Maine the mistaken policy seems to have been due rather to ignorance, neglect or inefficiency. The facts as to the Rock Island were brought to light in 1914 in connection with reorganization proceedings. After the management had issued a highly encouraging statement, indicating a liberal upkeep of roadbed and equipment for 1913, an expert investigated the matter from another angle for the bondholders.[2] He reported a corporate starvation policy so extreme that about 20,000, — that is to say, one-half — of the company's freight cars were worn out and should be retired at a cost for replacement of $15,000,000; also that inadequate or, as it was termed, "deferred maintenance work" would necessitate another $8,000,000 expenditure. These two

[1] *Cf.* the Frisco failure, p. 41, *supra.*
[2] Report by Vice-President McKenna of the St. Paul, May, 1914.

items alone transformed a reported surplus of $13,600,000 for the preceding year into a profit and loss deficit of $10,291,000. Obviously the only way to save the property was to capitalize this deficit at once by an assessment upon security holders.[1] A similar experience, this, to the Atchison and the Baltimore & Ohio twenty years before, repeated almost word for word!

The complete collapse of the Boston & Maine Railroad in 1913 affords a second recent instance of the penalty imposed by years of self-deception in matters of replacement and depreciation.[2] Large sums, which under the dictates of ordinary intelligence and prudence ought to have been invested in the property from earnings, were for years diverted to the payment of excessive dividends,—not absolutely excessive in the sense of affording an unreasonable return on the capital but relatively so, in the sense that they brought about a progressive impoverishment of the road. Such deceptive financiering need not necessarily be in the nature of a fraud upon stockholders, however great the losses which they may be called upon to bear through having innocently dissipated their capital, thinking they were merely spending their income. Undoubtedly it has thriven in the past upon the pretended need of secrecy in the matter of accounts. From the public point of view, in the last analysis it invariably entails an undue burden of securities upon the shoulders of the community, to be supported out of current earnings, while at the same time exposing patrons to the exasperation of a halting, unsafe and inadequate service. The primary lesson to be learned by railroad managements is that, not more than current earnings, but at all times far less, should be distributed in the way of dividends. The moral for the public is that it must be prepared to countenance such rates as shall yield a substantial sum in addition, not only regular normal rates of return upon capital but to provide for future contingencies, especially the "costs of progress."[3]

[1] P. 392, *infra*.
[2] 27 I. C. C. Rep., 593; *cf*. p. 255, *infra*.
[3] P. 185, *supra*.

Relief from the embarrassment of an exuberant surplus by means of extra cash or stock dividends is a simple operation. But corporate surpluses are by no means confined to ready cash, quick capital or marketable assets. A profit and loss account merely evens up the difference between assets and liabilities on the balance sheet. A surplus seems substantial enough; but in reality it is a hazy and elusive thing. In the first place it depends entirely upon the particular valuation placed upon the assets. A stroke of the pen in writing off property account may serve to obliterate it entirely. But even if the valuation of assets be sound, the surplus may be an unrealizable one. A large part of it, instead of being a cash fund or convertible securities, may be a mere statement of past earnings appropriated to a future use, and in the meantime inextricably entangled in the business. As thus invested, it is subject to the same risk of obsolescence or depreciation as the rest of the plant. It may not even be property at all but merely reputation, built up by heavy expenditures for advertising and the like.[1] Such a surplus may indeed prove in time of trouble to be a weak reed instead of a staff. The Western Union, when taken over by the American Telephone Company, had its surplus of $18,-800,000 promptly written off by more than two-thirds. The Illinois Central, too, acted the part of prudence a few years ago in transferring its "dividend reserve fund" to profit and loss; perceiving that, although theoretically such a fund might be drawn upon to eke out dividends, in fact it was a mere book statement, not serviceable at all when needed. And the Missouri Pacific, upon emerging from unintelligent Gould management, found it wise to eliminate a lot of dead wood from its surplus account. Nevertheless, a surplus representing undistributed earnings over a term of years may sometimes under conservative administration attain large proportions. And it may well be that by the growth of assets in this way, the prop-

[1] *Cf.* the New Jersey cases authorizing capitalization of development expenses, p. 308, *infra*.

erty has reached a condition of acute under-capitalization. The temptation under such circumstances to reimburse the treasury of the company for such uncapitalized outlay, and thereby to re-establish an equivalence between assets and outstanding securities, may become at once irresistible and venial.[1]

There are a number of ways by which undivided earnings may be capitalized, other than by means of either cash or stock dividends. The Villard administration of the Northern Pacific in 1888, just on the eve of bankruptcy, shifted accumulated charges of improvements to income through a number of years over to capital account; and an attempt was then made to sell securities in order to balance the books. But it failed to accomplish what the Alton management after 1898 so adroitly performed for the benefit of "insiders."[2] Under happier auspices the Union Pacific in 1914 finally distributed its large surplus to common stockholders, in the form of a donation of $82,000,000 of Baltimore & Ohio stock from its treasury, — stock which it had received in exchange for its speculative investments in the shares of other companies.[3] Ostensibly this "plum" was a distribution of profits accruing from successful financial transactions since 1900, and not resulting from transportation at all. It would appear as if the public interest were not concerned, inasmuch as the outcome was a profitable one. But suppose the speculation had failed? Would not the road have been impoverished to that degree, with necessary deterioration of service? Nor is that all. Collateral trust bonds were originally issued to acquire many of these stocks. They were generally convertible, to be sure, so that fixed charges became largely transformed into contingent ones. But the fact is indisputable that this one-time indebtedness, now

[1] *Cf.* New Jersey experience again, as to stock dividends. Footnote p. 308, *infra.*

[2] P. 262, *infra.*

[3] Validated by N. Y. Court of Appeals decision, July 15, 1914, declaring that $15,000,000 profit on conversion of stocks and $38,000,000 on stock market operations in Northern Pacific, etc., were profits not capital. P. 567, *infra.*

transmuted into capital stock,[1] remained outstanding as an absorbent of future earnings; although the assets which it once served to purchase had been handed over to stockholders as a gratuity. That the surplus earnings from past years still undistributed, together with the increment in the value of tangible property, notably land, preserved an equivalence of assets and liabilities on the books, even after the withdrawal of this huge bonus, obscures but does not alter the fact that the distribution was at bottom "affected with a public interest."

American railways have liberally utilized surplus earnings to build up their properties. The Pennsylvania Railroad for years adopted the "dollar for dollar" practice of devoting literally one-half of its income to reinvestment in the plant. During 1887–1911 the sum of $262,000,000 was put back into the Pennsylvania lines east of Pittsburgh from earnings, — an amount, that is to say, nearly equal to two-thirds of the total cost of construction of its 2,000 odd miles of line.[2] The Chicago & Northwestern in like manner during the twenty-year period to 1913 so divided up its net income of $200,800,000, that $77,700,000 of this amount remained undistributed, either in the form of direct appropriation from earnings for improvements, or of income carried to surplus account. In the South, the Louisville & Nashville in the eight years before 1907 put back into its plant over $18,000,000 of undivided earnings — equal to over 30 per cent. of its share capital. The total surplus thus built up in 1912 is said to have amounted to upwards of 90 per cent. of its entire capital stock. The opinion in the Western Rate Advance case[3] of 1910 stated that the unappropriated surplus of all the railroads in the United States at that time amounted to $800,642,923, of which $606,500,000 had

[1] Even although the dividend rate is reduced from 10 to 8 per cent. coincidently with the distribution of assets. *Cf.* also the New Haven debentures based upon N. Y., Ontario & Western or other collateral.

[2] 20 I. C. C. Rep., 243. Even during the decade to 1913, out of $530,000,000 added to property investment, $164,000,000 came from undistributed earnings.

[3] 20 I. C. C. Rep., 243, 307.

been accumulated in the ten years to 1909.[1] Such facts are impressive. They certainly do not fairly represent recent tendencies, since 1909. Surpluses of this sort are not now being heaped up. But they indicate how important the question of the interest of the public in such surplus earnings may at times become.

The fact of the existence of substantial surpluses, arising partly as a result of our conservative American practice of putting a portion of earnings back into the property, and partly as a result of the exceptionally rapid development of the country, naturally gives rise to the question as to how far the public has an equitable interest therein.[2] The rate-making aspect of the matter will shortly be considered in connection with physical valuation.[3] The question in so far as it touches the regulation of capitalization must be approached somewhat differently.[4] In practice the issue generally arises over the right of the railroad to distribute its surplus in stock or cash dividends. Two clearly defined and opposing views are discernible. The older and simpler one is that stockholders have an inalienable right to all earnings of the company; and that

[1] *Cf.* evidence in the 1910 Rate Advance case; 61st Cong., 3rd sess., Senate Doc. no. 725, "surplus" in index.

[2] Well discussed by J. H. Gray, *Amer. Economic Review*, vol. IV, Supp. 1914, p. 36; by L. G. McPherson, *Railway Age Gazette*, vol. LIV, 1913, p. 1118; and in Whitten, Valuation of Public Service Corporations, 1912, pp. 176–189.

[3] P. 331, *infra*.

[4] Various differences in principle regarding the determination of a reasonable basis for capitalization and for rate-making obtain. One depends upon local accounting practice and state regulation of capitalization; the other, most rates being interstate, is largely a Federal concern. The treatment of obsolescence or misplaced investment is also different. Market value may be a standard for capitalization, but seldom for rates. Under physical valuation, cost of reproduction may be applied in rate-making, but original cost or investment should be used for capitalization, assuming that the increment of land valuations, as in Texas, is excluded. Most physical valuations and cases before administrative commissions have had to do with rate-making; but the Massachusetts Validation Commission of 1911, the Third Avenue Street Railway case in New York and some judicial decisions are mainly concerned with sound capitalization. *Cf.* chap. XI, *infra*.

if they choose to permit a portion of current income to remain invested in the property, they in no wise forego thereby their right to take it over to themselves without interference at any future time. Such a view was well expressed by the management of the Great Northern when in 1883 it made an extra distribution in the shape of an issue of $10,000,000 of bonds, "payable 10 per cent. in cash and 90 per cent. in property, constructed or acquired with stockholders' money, — thus returning to them $9,000,000 in the nature of a forced loan taken from them by sequestration of $11,000,000 of profits during previous years." In confirmation of this view, it deserves to be kept in mind that until a comparatively recent date, there was nothing in the charters of railways, in state constitutions or in the law of public service callings, to indicate that investments by railways from earnings would be differently treated from investment by direct subscription of shareholders. This point has often been raised in connection with the inclusion of surplus earnings in the "fair value" of the property for rate-making purposes.[1] To decline so to do might lead to absurd results. For otherwise, as between two railroads of different earning power, each pursuing the policy of reinvesting one-half its income in the plant, the more profitable one, although it might upbuild its property hugely by comparison with the other, would not be permitted to enjoy the fruits of its self-denial in any corresponding degree. A penalty upon prudence and thrift would surely be imposed.

The other view, which upholds the claim of the public to substantial enjoyment of the surplus of public service corporations, has been freely expressed in recent rate cases. Oddly enough, judicial decisions throw little light upon it. The argument is well put by Whitten[2] as follows:

> If a company has charged rates, not alone adequate to pay a fai and reasonable profit to the stockholders, but also to permit the buil ing out of earnings of extensions and improvements aggregating

[1] Chap. X, *infra*. [2] Valuation, p. 176.

much as the total investment of the security holders, there is some justice in the argument that unless this has been done for the benefit of the consumers it represents pure extortion. Profits in excess of a fair return should either be distributed to the consumer in lower rates, or if used for extensions and improvements, should be deemed to be held in trust for the exclusive benefit of the consumer.

Nor is this all that may be urged in the public behalf. To permit a railroad to capitalize its surplus earnings fully, it is said, and thereafter to permit it to enjoy a return upon this additional investment is, in fact, to permit the shareholders to have their cake and to eat it too;[1] or, in other words, to make the patron pay more in the future, and forever, because he had already paid an unreasonably high rate to create the surplus in the past.

Our own decision in the matter is intermediate between the two extremes of opinion above stated. In the first place, a just decision will depend upon circumstances, particularly upon the actual source of the surplus itself. An appreciable part of it may be due to the growth of land values.[2] In the Western Rate Advance case of 1910, the Burlington road claimed a total valuation of $530,000,000 according to which its surplus amounted to $272,000,000. The Commission found, in turn, that $150,000,000 of this latter sum was due to the increment in real estate, while only $122,000,000 represented property acquired out of earnings.[3] Another instance in the South is afforded by the Atlanta & West Point in Georgia. Reinvestment of all earnings in the plant for many years, but particularly the enhanced value of terminal property in Atlanta, seemed fully to warrant doubling the capital stock in 1910 and basing earnings and rates thereupon.[4] An additional complication, of course, is that not infrequently there may have been large grants

[1] Precisely the line of reasoning in a Lehigh Valley rate case; 21 I. C. C. Rep., 160.

[2] P. 351, *infra*. *Cf.* Whitten, Valuation, chap. VI.

[3] 20 I. C. C. Rep., 332.

[4] Commissioner Clements in Hearings, Interstate Commerce Committee, 1912, on H. R. bill 12811, p. 8.

in aid of construction originally made for nothing. This must also be taken into account.[1] An entirely different problem is presented by the surplus distributed by the Union Pacific in 1914, — a surplus resulting from successful speculation in the stocks of other railroads.[2]

Decision should be made, also, in the light of the general conditions prevailing at the time. A generation ago it was the common practice to divide all profits in sight and to finance new construction by the issue of securities. Such policies were fully sanctioned by the public opinion of the day. But a few roads, undoubtedly well in advance of their time, during the '80s began to devote a good part of their earnings to new construction and betterment. Without outrage to public opinion much of this at that time might well have been added to dividends. The shareholders' rights in such a surplus certainly deserve determination in the light of the then-prevalent practice. To apply the standards of the present day, when pioneering chances have been supplanted by rate-regulatory risks, would be manifestly unfair. The dilemma is most puzzling in those instances where the source of the surplus has been exceptionally intelligent management, coupled with manifestly fair treatment to the public. Such an issue is presented, as we shall soon see, by certain Massachusetts gas company cases. The sharp differentiation of a surplus thus created, from surpluses arising through public donations or an increment in land values on the one hand, or an extortionate rate policy on the other, is sufficient to discourage loose generalization. In fine, each case must be judged upon its own merits.

A sane treatment of property derived from surplus will be found in the policy of the Massachusetts Gas and Electric Light Commission. It is well expressed in the Haverhill Gas Co. case.[3] In this instance a public service company by excep-

[1] P. 351, *infra*.

[2] P. 239, *supra*.

[3] 16 Ann. Rep., 1901, p. 9. *Cf.* 20 I. C. C. Rep., 307, and also a[illegible] of F. E. Barker, Convention of R. R. Commissioners, 1913. A[illegible]

tionally careful and conservative management, coupled with a rapid gain in wealth and population of the community supplied, accumulated a substantial surplus over and above the customary rate of 10 per cent. dividends. This conservative policy was encouraged by the commission, on the ground that it insured steady dividends and also resulted in the highest efficiency at low cost. Such a use of surplus, it was held, conferred substantial benefit upon the public and the shareholders alike. It seemed particularly desirable in the '90s, in view of the prospective keen competition of electric light with gas. Finally, however, the demand for a reduction of rates on one hand, and for capitalization of this surplus on the other, brought the matter squarely up for decision. The commission has consistently adhered to its view that by every principle of law such a surplus is the property of the corporation; but, at the same time, that there is imposed upon such a public monopoly "the duty to employ it for the joint advantage of the consumers and the corporation. It need not be dealt with as the exclusive property of either." Unfortunately this admirable theory has been difficult to apply in practice. After fifteen years of litigation, during which the Massachusetts courts have steadily upheld the theory of private property rights, the public in Haverhill has not yet succeeded in securing any reduction in the price of gas. The supreme court of the state in 1913, in the similar Fall River case, completely over-ruled the commission. This body had sought to prevent further issues of stock for extensions while the company at the same time was regularly distributing its surplus in the shape of extra dividends over and above a regular rate of 12 per cent.[1] Such experience tends to confirm the view expressed by Commissioner Prouty[2] as to the practical impossibility of making amends to those who have once paid excessive rates, by laying hold upon such sur-

terly Journal of Economics, vol. XIV, 1899, p. 509; and *idem*, vol. XV, 1900, p. 254; vol. XVII, 1902, pp. 342 and 643.

[1] 214 Mass., 529.

[2] 15 I. C. C. Rep., 415.

pluses. Supervision of capitalization, as of rates, must be continuous and foreseeing, not spasmodic and tardy. It can never be retroactive successfully. Harm must be prevented. Once done, it cannot be corrected. But is the accumulation of a surplus to be regarded, indeed, as a menace? Is it not in fact just the opposite? We shall see.

Somewhat similar points have been recently considered by the Interstate Commerce Commission. In the Spokane case,[1] counsel for the shippers contended that the ample surpluses of the Pacific railroads should in some way be distributed by the Commission, acting as a trustee for the public, through a reduction of rates. But it was pointed out in the decision that, under a uniform scheme of rates, one road by reason of cheaper construction or easier operation might pile up a surplus while the other did not. Could it then be said that this surplus had been improperly accumulated, so long as its rates had been no higher than those of its competitors? Similarly in the Eastern Rate Advance case in 1911,[2] assent within certain limits was given to the accumulation of surplus in order to provide for necessary improvements which for the time being, or in their nature permanently, did not yield a return. Large investment of a non-productive sort such as passenger stations, the abolition of grade crossings or the installation of safety appliances, might properly be cared for in this way. But, the opinion added, stockholders must also contribute to such surpluses through a reasonable sacrifice in dividends. This was undoubtedly what the Railroad Securities Commission of 1911 had in mind in declaring that surpluses might most fairly be utilized to meet the necessary "costs of progress." An admirable policy, voluntarily adopted by a public service corporation, is that of the American Telephone and Telegraph Company.[3] The directorate set forth the advantages to the company of a large surplus, as strengthening credit, assuring

[1] 15 I. C. C. Rep., 376, 415.

[2] 20 I. C. C. Rep., 243, 265.

[3] Ann. Rep., 1912.

steady dividends, procuring new capital on favorable terms, and maintaining a high state of efficiency in operation at low cost. The promise was held forth that such reserves and betterment should not be made the basis in future of larger dividends, but should constitute a trust to be administered in the public interest. These reserves, it was hoped, were to remain as assets "indivisible, inviolable and inalienable," — not, in other words, at some future time to be divided up among the shareholders. Under such circumstances, the advantage to the public of large reserves, thus invested, is that reduced charges and improvement in service will naturally follow by reason of the economies in operation introduced.[1]

Refunding,[2] as affording an opportunity for surreptitious inflation of the volume of outstanding securities, is of relative unimportance, judging by the experience of our public service commissions. Usually the operation merely perpetuates, it does not create, an undue volume of indebtedness, — allowance being made, of course, for changes in the prevailing rate of interest and the condition of investment demand.[3] The offence, if there were one, was usually committed at the time of the original issue. But the necessity of refunding sometimes affords an opportunity for the intervention of administrative authority to correct a previous over-capitalization in whole or in part. The hard-fought Delaware & Hudson case, outlined in our review of the New York experience,[4] illustrates the manner in which the refunding of floating indebtedness may be critical in the larger affairs of consolidation of railroad properties. In Texas, refunding operations have been of peculiar interest. The railroad commission of that state interpreted the law, rigidly restraining all further issues of securities until capitalization had been brought down to the level of property valuation, as prohibiting even the refunding of exist-

[1] The theory of partnership in surplus is well stated by H. V. Hayes in *North American Review*, vol. CXCVIII, 1913, p. 341. *Cf.* also his Public Utilities, 1913.

[2] P. 130, *supra*. [3] P. 186, *supra*. [4] P. 289, *infra*.

ing bond indebtedness.[1] The matter became acute about 1905–'06, when a large number of bonds of Texas roads reached maturity. The physical valuations applied by the commission as a standard of measurement were generally well below the volume of bonds outstanding, to say nothing of the capital stocks; and revaluation was denied on the ground that accounts could readily be kept up to date by adding the yearly reinvestments of income to the original figure. If prohibited from refunding the maturing bonds, dollar for dollar, obviously the roads would be unable to issue enough new ones to take up the old. Enabling legislation to mitigate the rigor of the law was urgently sought, but in vain. The only escape for the companies was to issue new bonds to the full amount of their physical valuation and then to leave the balance as a floating debt. To the outsider, it appears as if this policy of excision were unduly severe. If, as in the Delaware & Hudson case, there was evident over-capitalization to be corrected, it seems as if the wiser plan would be to permit refunding, but to insist upon guarantees that the company would make amends within a reasonable time by a gradual process of amortization.[2]

Consolidation of railroad properties offers an exceptionally favorable opportunity to increase capitalization surreptitiously. The English practice of "splitting" securities had its beginnings in connection with merger operations. New classes of stocks known as preferred and deferred shares were put forth, each of them equal in volume to the total original stock outstanding.[3] A prime advantage of consolidation, of course, is that the constituent companies may be so gerryman-

[1] P. 303, *infra*.

[2] Certifications of refunding operations by other state commissions are given at p. 293, *infra*. Even later ones approved by public authority will be found in the following cases: permitting the St. Paul to exchange $470,000,000 of its own bonds for those of the St. Paul extension, 1P. S. C., Missouri, 1913, p. 305; and prescribing the terms of exchange, discount, etc., of $28,000,000 of Iron mountain bonds, *ibid.*, p. 105.

[3] McDermott, Railways, p. 164.

dered that successful ones with surplus earnings may average their rate of return downward by combination with other properties less favorably situated. A weak corporation, whose stock is quoted say at $50, may be merged in a second corporation whose stock is worth $150 per share. The latter may then issue new stock of its own in exchange for the $50 stock, share for share. Such an operation as this may not only deceive the public, by establishing a fictitious capitalization far in excess of the worth of the investment; but it may also constitute a fraud upon the shareholders of the more prosperous company, diluting the value of their holdings. In ordinary offerings of new shares at favored prices, the stockholder finds compensation for the fall in the value of his shares in the bonus or "right" which he received.[1] But in these cases of consolidation, the bonuses or rights may go to the favored holders of shares in the weaker company alone. It is conceivable, of course, that advantage may flow to both concerns from the merger, particularly through the extension of the credit of the stronger to enable the weaker one to make the expenditures necessary to bring about reduced operating costs. This has been done of late by parent roads outside Texas to subsidiaries therein, subject to the drastic limitations of the Stock and Bond law.[2]

The classical instance of stock-watering in connection with consolidation is the merger of the Kansas and Union Pacific roads in 1880.[3] Jay Gould first quietly picked up, at a nominal price per share, a large amount of stock of the Kansas Pacific, then just out of bankruptcy. The Union Pacific, at the time, was a prosperous company paying dividends regularly. Both roads ran due west across the plains beyond the Missouri river,

[1] P. 269, *infra*.

[2] P. 156, *supra*. The analogy with electric lighting properties (p. 289, *infra*) is imperfect, inasmuch as the latter may concentrate all operation in the stronger plant, while in the case of railways both must still operate in their respective territories.

[3] Pacific Railway Commission Rep. 1888; 50th Cong., 1st sess., Exec. Doc. no. 51, pp. 55 *et seq.* *Cf.* also p. 17, *supra*.

the Union Pacific from Omaha, and the Kansas Pacific from Kansas City. (Map, p. 500.) The latter had at the time no important western terminus. Under threat of building his moribund road through to a point where it would be a very troublesome competitor, Gould bludgeoned the directors of the Union Pacific into an agreement to merge on equal terms. His holdings were taken over share for share by exchange for Union Pacific stock. The combined companies then continued to pay 6 per cent. on the new total capitalization and the following year increased the rate to 7 per cent. By this stroke Gould made very large profits, and the shareholders of the Union Pacific were deprived of a portion of the earnings which otherwise would have belonged to them. As for the public it was called upon thereafter to provide sufficient earnings to pay 7 per cent. dividends upon Kansas Pacific shares, which, prior to the merger, had been worth almost nothing.

Another notable inflation of capitalization in connection with railroad consolidation took place on the formation of the Rock Island company. In 1902 this purely financial corporation bought up the old Chicago, Rock Island & Pacific Railway, capitalized at $75,000,000, and substituted therefor its own stock to the amount of $117,000,000 together with $75,000,000 of collateral trust bonds, secured by the stock of the property acquired.[1] The entire history of the New York traction companies is studded with similar occurrences. One instance may suffice. In 1906 the Interborough-Metropolitan company purchased $105,540,000 in securities of merged lines and issued in place thereof $138,309,000 of its own stock and $70,000,000 in bonds. The subsequent bankruptcy of this company, the loss of large sums by confiding investors and the utter break-

[1] *Cf.* pp. 152, *supra*, and 524, *infra*. The Kansas City, Fort Scott & Memphis Railroad was purchased in 1901 by the Railway of the same name, adding 131.5 miles of line and $29,346,310 of capitalization, with attendant commissions, and subscription profits to the syndicate of $2,282,000. Hardly a labor of love! 63rd Cong., 2nd sess., Senate doc. No. 373, p. 56.

down of the service, are matters of recent history.[1] It must be clear that, in both these cases, a purely fictitious capitalization was created, not corresponding in any way to the real worth of the property. Whether similar exchanges of securities, share for share, with branch-line companies absorbed by a main line, amount virtually to stock-watering or not, would seem to depend entirely upon circumstances. The manipulation of branch-line finances upon the old Union Pacific road was notorious. Regarding the modes of acquisition of subsidiary companies by the Great Northern road, charges have repeatedly been made in Minnesota that each merger resulted practically in additional fictitious capitalization.

In Texas the details of all railroad mergers of this sort are most rigidly scrutinized, in order to prevent such an increased capitalization. Mere consolidation of roads in the Missouri, Kansas & Texas system in 1891, for example, increased the aggregate of stock and bonds by $12,475,000, or $19,207 per mile of road. This, it will be noted, was before the enactment of the Stock and Bond law.[2] Whether the public interest is prejudicially affected in such cases or not would seem to be dependent largely upon whether the companies absorbed were worth the price paid for them; or, in other words, whether efficiency and earning power were promoted in a degree suitably proportioned to the enhanced capitalization. And, even so, the expediency in the public interest of requiring amortization of the increase in capitalization, as required by the best modern practice, is obvious.[3]

All previous demonstrations of the evil of dilution of capitalization as a concomitant of consolidation were eclipsed by

[1] Pp. 283, 287, and 292, *infra*.

[2] Report of the Railroad Commission to the Governor on the subject of mergers, Nov. 5, 1904; reprinted in full in the Dallas *News* of Nov. 27, 1905. Also p. 302, *infra*.

[3] *Cf.* New York Public Service Commission practice, reviewed on pp. 277, 288, *infra*. Also the vigorous dissenting report on p. 18 of the Draft Bill for Regulation of Public Utilities, of the National Civic Federation, Oct. 23, 1914.

the utter prostration of the once substantial New York, New Haven & Hartford Railroad; officially termed "one of the most glaring instances of maladministration in all the history of American railroading."[1] Within nine years to 1912, the outstanding securities of this company increased from $93,000,000 to $417,000,000, although the operated railroad mileage increased only fifty miles. Issues of new stocks and bonds during this period brought in about $340,000,000. Of this sum, $40,000,000 was spent for the purchase of lines previously operated under lease or otherwise indirectly. For betterments and equipment, $96,000,000 was expended. This left a sum of about $204,000,000, which in nine years was invested in properties outside its own railroad sphere,— that is to say in trolley companies, steamship lines and even electric light and power plants. A tale of more reckless disregard of the interests of the public and of investors alike — a more complete breakdown of service in the form of intolerable losses and delays and appalling accidents — has never been spread upon the records. It is an involved affair in entirety. We must be content to outline it by territorial samples.

The Connecticut trolleys in the New Haven system were originally leased as the Connecticut Railway and Lighting Company. This aggregation of roads had been formed by the consolidation of nine smaller concerns in 1900. Bonds to the amount of $9,350,000 and shares amounting to $15,000,000 — a total of $24,350,000 — were exchanged for a former combined

[1] Best outlined in 27 I. C. C. Rep., 581, and 31 *idem*, 15. *Vide* also p. 442, *infra*. *Cf.* also Report to the Joint Board on the Validation of Assets and Liabilities of the New York, New Haven & Hartford Railroad under chap. 652, Acts of 1910, by George F. Swain, Engineer in Charge; published in Report of the Mass. Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154. [Known as the Validation Report.] Other details concerning steamship lines are given in the above I. C. C. reports, supplemented by the further testimony taken in May, 1914; also Report U. S. Bureau of Corporations on Transportation by Water, pt. 4, 1913, p. 17. The second extended I. C. C. Rep. has just been issued (July, 1914); 31 I. C. C. Rep., 31.

capitalization of $8,210,000 at the time of consolidation.[1] This flagrant over-capitalization was characteristic of the general situation in that state. The absence of rigid governmental oversight, outside of Massachusetts, created a striking contrast in this regard, to which attention will be called in another connection.[2] Where the New Haven railroad agreed by purchase and lease to support this inflated capitalization, the operation practically, of course, amounted to dilution of the value of its own securities to a corresponding degree. The Massachusetts Validation Commission in 1911 found that, even making no allowance whatever for depreciation, $13,000,000 of a total par investment of $40,000,000 of the New Haven railroad in these Connecticut trolleys represented no tangible value whatever. Still less, apparently, did it represent earning power.

The round-about processes by which the New Haven obtained control of its trolley lines in Rhode Island may best be described by direct quotation from the report of the Interstate Commerce Commission.[3]

"In 1902 the United Gas Improvement Company, generally understood to be an institution backed by Philadelphia capital, entered the trolley field in Rhode Island. A corporation known as the Rhode Island Company was organized, which issued its capital stock in the sum of $2,000,000 to the Improvement company, receiving in return $2,000,000 in cash. The Rhode Island Company thereupon leased three trolley lines, which embraced in the main all the lines in Providence, Pawtucket, and the immediate vicinity.

"The Improvement company now proceeded to organize what was known as the Rhode Island Securities Company for the purpose of holding the stock of the Rhode Island Company. The Improvement company turned over to the Securities company the $2,000,000 of stock in the Rhode Island Company; and received therefor without any further consideration $12,000,000 of the capital stock of the

[1] Report of Commission *de* Public Service Corporations, Connecticut, 1909, pp. 8–11; New York *Evening Post*, Nov. 23, 1912; 31 I. C. C. Rep., 108.

[2] P. 296, *infra*.

[3] 27 I. C. C. Rep., 581; and 31 *idem*, 41 and 85.

Securities company and $3,500,000 of its 4 per cent. bonds. This resulted in the issue to the Improvement company of $15,500,000 of securities for $2,000,000 in money.

"This was in 1902. In 1904 the New Haven began its campaign for the acquisition of the trolley lines of southern New England, and soon after purchased a block of the stock of the Rhode Island Company. In 1906 it perfected arrangements for the acquisition of the entire stock of that company. Instead, however, of purchasing that stock directly, it arranged to do it indirectly by taking over the Securities company. What the New Haven did was to organize a third corporation, the Providence Securities Company, which exchanged its 4 per cent. debentures guaranteed by the New Haven company for the stock, bonds and notes of the Rhode Island Securities Company substantially at par. There was a cash payment of $10 per share by the stockholders of the Rhode Island Securities Company and an adjustment of $3 per share against this on account of interest; there were certain bookkeeping entries one way and the other, but the upshot of the whole transaction was that the New Haven company issued its obligations to the Improvement company and others and received in exchange at substantially dollar for dollar these inflated securities of the Rhode Island Company.

"Representatives of the New Haven company earnestly insisted that this company had not watered the stock of the Rhode Island Company, and this, strictly speaking, is true. The Improvement company turned in the water and the New Haven company converted that water into wine. In whatever aspect the transaction is viewed the New Haven gave $13,500,000 for nothing."

The net result of this operation was a total investment of about $24,000,000, although the state authorities subsequently estimated the property to be worth only about one-fourth of this figure.[1] Nor were the earnings of these Rhode Island trolleys, at any time, sufficient to justify the prices which the New Haven paid for them. The reckless expenditure, in order to secure monopoly control, simply saddled the New Haven treasury with a huge aggregate of inflated securities which did not begin to cover the cost of raising the funds for their purchase.

[1] President Mellen himself on May 20, 1914, before the I. C. C. conceded that the price was twice their value. A committee of the directors had already reported adversely upon this purchase, but were overruled by Messrs. Mellen and Morgan.

The $13,500,000 given for nothing in the Rhode Island trolleys was well matched by the investment in the New York, Westchester & Boston Railway, — a four-track electric road, extending about twenty miles out from New York.[1] This affords an instance of inflation, not only in connection with franchise purchase but also as a piece of original construction. Eight thousand shares of New Haven stock, worth $1,200,000, were first exchanged for 24,000 Westchester shares, worth in the words of President Mellen, *subsequently*, "about ten cents a pound." Then about $11,000,000 more was paid for $5,000,000 invested in construction by the promoters, — this by command of J. P. Morgan without any adequate accounting even to the directors. All in all, to 1912 the New Haven invested $35,000,000 in this enterprise; although the value of tangible property, reported to the New York Public Service Commission, was only $12,000,000. An annual deficit of $1,250,000 still obtains.[2]

While the foregoing events were taking place, the New Haven was also seeking the control of the Boston & Maine Railroad in order to consolidate its own transportation companies south of Boston with those of northern New England. The financial mechanism by which this was accomplished is described in another place.[3] So far as inflation of capitalization is concerned, in order to elude the prohibitions of the legislature and the courts of Massachusetts, the Boston & Maine stock was for a brief period in 1908–'09 sequestrated in the hands of one J. L. Billard. To him the stock was sold at $125 per share, within a few months to be once more returned to the New Haven company at $150 per share. "Upon the face of

[1] 31 I. C. C. Rep., 35 and 74; 3 P. S. C., New York, 2nd D., 286.

[2] The Mass. Validation Report of 1911 accepted an inventory of $12,300,000 for plant and estimated $8,900,000, "for cost of the franchise, control of the situation, etc."

[3] P. 415. *infra.*

the transaction, therefore, Mr. Billard made, without the investment of a dollar in excess of all expenditures by him, slightly over $2,700,000 as a result of this transaction."[1] Moreover, the objection that this unearned paper profit was not an actual one, because the final payment was not in cash but in notes, was met by the significant fact that the notes given in connection with the final transfer were guaranteed as to face value by the New Haven railroad company. Upon the record, therefore, the cost to the New Haven company of these profitless transactions was almost $3,000,000, — a sum which, of course, was a part of the large amount which had to be raised by the issue of securities by the parent road.

Other minor instances of inflation under the Mellen administration may be mentioned in passing. Without any substantial new investment, the capitalization of the Portland Union Station Company was run up from $350,000 to almost $6,000,000, with entailed fixed charges of $180,000 a year. Even after public opinion had become thoroughly bent upon subjecting the New Haven to control, the Western Trolley Merger bill was jammed through the Massachusetts legislature in 1913 as the price of acquiescence by the railroad in the creation of a public service commission. This permitted the acquisition of the stock of three voluntary associations, which as holding companies controlled the trolley lines in western Massachusetts. This opened the door to the capitalization of $22,398,000 of floating debt, premiums on stock and other items, without let or hindrance by public authority.[2]

In conclusion, the Interstate Commerce Commission made it clear as a result of its elaborate investigations, that if the New Haven had confined itself exclusively to the operation of

[1] 27 I. C. C. Rep., 584. Corroborated by testimony of Billard, May 7, and of Mellen, May 17, 1914, further elaborated in 31 I. C. C. Rep., 31. Civil suits for the recovery of $3,824,000 were instituted against Billard *et al.* by the New Haven on Oct. 6, 1914, and are still pending.

[2] Ann. Rep., Mass Railroad Com., 1912, pp. 167–175.

its railroad property, it would have had for the fiscal year 1912 a surplus of $1,794,000 over and above 8 per cent. dividends upon its stock, instead of a deficit of nearly $1,000,000. The losses are thus epitomized in the second official report to the Senate.[1]

Boston & Maine	$23,223,725.68
N. Y., Westchester & Boston	11,457,156.09
Hartford & Worcester St. Railway	73,394.27
Springfield Railway companies	203,221.15
Worcester Consolidated St. Railway	10,500.00
Worcester & Southbridge St. Railway	15,580.00
Connecticut Company	12,535,386.01
Rhode Island Company	18,352,336.41
Total	$65,871,299.61

"There was a loss in the recent sale of the New Haven interests in the Merchants & Miners Steamship Company of $3,594,500.

"From all of the foregoing and from a careful consideration of the method in which expenditures, not specified herein, have been made, it is submitted that a reasonable estimate of the loss to the New York, New Haven & Hartford Railroad Company by reason of waste and mismanagement will amount to between $60,000,000 and $90,000,000."

Another viewpoint is afforded by the earning power of these outside properties which were so costly to acquire. During 1913, the Rhode Island trolley system earned a surplus of $88,000, and the Connecticut trolleys one of $109,000; while the Millbrook company reported a deficit of $179,000, the New England Steamship Company one of $355,000, and the New York, Westchester & Boston one of $1,405,999. Matters inevitally went from bad to worse. Shareholders with dismay witnessed a decline in the market price of New Haven stock from about $185 in 1905 to less than $50 per share in 1914. Dividends, after years of uninterrupted payment, had to be suspended during a wearisome period of recuperation. The dismal chapter seems about to be closed in 1914 by the resolution of the system into its component parts under compulsion

[1] 31 I. C. C. Rep., 62.

from the Federal Department of Justice. The interest of the public appears in the fact that, under other circumstances, the railroad might conceivably have continued to furnish a safe and adequate service without further advance in its rates and fares, and yet at the same time have returned to its stockholders a fair dividend upon their investment.

CHAPTER VIII

STOCK-WATERING (*Continued*)

FINANCIAL reorganization offers a fruitful field for an increase of capitalization irrespective of assets, whether for railroads or industrial corporations.[1] Occasionally a company succeeds in emerging therefrom with the same volume of outstanding securities with which it went into bankruptcy. By far the larger number come forth saddled with heavier issues than ever before. Even more impressive is the volume of securities in comparison with the assets. Almost never does any real excision under reorganization take place.[2] All this is, of course, highly paradoxical; inasmuch as it was the overload of stocks and bonds which brought on the trouble, — an overload so disproportionate to the earning power of the property that its back broke under the burden. But the explanation is not far to seek. It is never the total capitalization of a company which is the source of danger. The volume of capital stock is immaterial. It is the fixed charges upon indebtedness to which the road succumbs. Yet some way must be discovered under reorganization by which the old bondholders may be induced to forego their right of foreclosure. This almost always

[1] P. 406, *infra.*

[2] Simon Sterne, *Forum*, vol. X, p. 37; vol. XVII, p. 19.

happens through offering them securities in exchange like income bonds or preferred stock, contingent upon earnings for their support. But the consent of bondholders to such substitution is in any event difficult to obtain. The most inviting speculative bonuses, even in the form of a modicum of common stock, must be dangled before their eyes in order to obtain consent for the substitution. This is what is even now occurring in the pending reorganizations of the Wabash, the Rock Island and the "Frisco," not to mention several minor roads.

It is a difficult and yet an important matter to control reorganization in the interest of the company as a whole and the public to be served, instead of particular classes of security holders. Otherwise the readjustment may only make bad matters worse. An admirable example of the well-advised exercise of governmental control is afforded by the hard-fought controversy upon the Third Avenue Street Railroad in New York. The experience merits review.[1] In 1907–'08 this company went into the hands of receivers. Its financial history was a disheartening record of fraud. Stocks and bonds of subsidiary companies stood upon the books at a cost of $9,950,000 — nearly twice their face value — despite the fact that one of these companies was in the hands of a receiver, another was practically worthless, and none of them, judged by earnings, was conceivably worth more than par. Over $500,000 of capital had been devoted to paying interest charges; $6,000,000 had gone into operating expenses; $1,000,000 for lawyers' fees; $1,000,000 into an untraced construction account; while for $5,000,000 there was absolutely no record.

In 1909, after foreclosure proceedings, a reorganization committee of bondholders as intending purchasers prepared a plan for the organization of a new company and applied for authority to issue the necessary securities. The plan of readjustment frankly admitted a huge discrepancy between the assets of the property and the capital liabilities proposed. The

[1] Also p. 287, *infra* for further references.

outstanding bonds and stock of the old Third Avenue road amounted to $58,560,000; the new capitalization was practically identical in amount. The plan followed the common rule in the reorganization of companies characterized by much watered stock and depreciated bonds. Fixed charges were cut down by substituting for the old mortgages, new income bonds calling for interest only as earned; and a heavy assessment was levied upon stockholders under penalty of having their former holdings cancelled. The Public Service Commission upon this showing declined to permit the new company to be capitalized for an amount equal to the outstanding securities of the old road, alleging properly enough that the reorganization was an opportune time for bringing capitalization and assets more nearly into equivalence.

After this first rebuff, a somewhat improved plan of reorganization was in due time presented for approval. The stockholders, instead of being required, as before to subscribe heavily to new stock equally valueless with the old, were now given a certain proportion of bonds in return for their assessment. But even under this second plan, the outstanding securities aggregated $73,600,000, whereas the physical assets were avowedly worth only $44,000,000. This excess of liabilities was, of course, the fruitage of the stock-watering and fraud of past years. Even on the basis of reproduction cost entirely new, plus necessary working capital, current assets amounted to only $68,000,000. This figure made no allowance for depreciation, obsolescence or inadequacy, and it included $11,625,000 for "development expenses," such as brokers' commissions and discount on bonds. The Public Service Commission thereupon in 1910 disallowed the second application. The case then went to the supreme court; and a decision was finally handed down,[1] purely on law points, which upheld the appeal of the reorganization committee. An ancient section of the

[1] N. Y. 145 App. Div. 318; 203 N. Y. 299; 96 N. E. Rep. 1012. Precedent followed by Nebraska; 5th Ann. Rep. Railroad Commission, 177.

Stock Corporation law was unearthed, which by oversight was not repealed when the Public Service Commission Act was passed. This gave free rein in the matter of capitalization to reorganization managers. The next legislature promptly revised the statute. But, in the meantime, the commission was obliged to approve this second plan despite the utter discrepancy between capitalization and assets. Naturally, however, under such circumstances the new securities could not be marketed at anything like par. It was estimated that $55,000,000 par value would produce only about $33,000,000 in cash. At this point, the commission in 1912 once more intervened.[1] The policy imposed was the only sound one for dealing with matters of this sort. It was directed that an amortization fund be set aside annually out of earnings, sufficient to cancel all the excess of liabilities over assets by 1960, when the bonds matured. Heavy depreciation charges were also required. A similar wholesome plan has since been adopted in the case of steam railroad issues by the New York up-state commission, notably in approving of the New York Central bond issue of $70,000,000 in 1914. Such may be said in fact to have become the established practice. It is obviously the only prudent one.

Practically all of the possible abuses or frauds described in the preceding pages under the caption of stock-watering are found combined in a single instance in recent years — the reorganization of the Chicago & Alton road by the late E. H. Harriman and his associates during the eight years following 1898. The case is an illuminating one; for it shows how an unscrupulous management may, at one and the same time, enormously enrich insiders at the expense of the investing public, and prejudice the interests of shippers, both by crippling the road physically and by creating the need of high rates for service in order to support the fraudulent capitalization. The

[1] 3 P. S. C., 1st D., 51.

imperative need of public supervision of the finances of common carriers cannot be better demonstrated than by a plain recital of the facts in the case, based on the sworn testimony elicited by the Interstate Commerce Commission in the course of its official investigation of the matter.[1]

For many years prior to 1898, the Alton road had been very conservatively financed, in the face of a profitable and constantly expanding business. According to the books at the close of that year, the assets amounted to $39,900,000. These assets were represented by some $22,230,000 of common and preferred capital stock and about $11,000,000 of indebtedness outstanding. The balance appeared upon the books of the company as surplus. The stocks had long been in receipt of 8 per cent. dividends and commanded prices ranging from $150 to $200 per share. At this time the late E. H. Harriman and three associates formed a syndicate and bought up practically all the shares, paying top-notch prices for them. In the short space of seven years, they expanded the total capitalization of the road from $33,950,000 to $114,600,000, an increase of over $80,000,000. In improvements and additions to the property out of this augmented capitalization, their own accounts showed only about $18,000,000 expended. It thus appears that securities aggregating $62,600,000 were put forth during this time without one dollar of consideration. This sum was equal to about $66,000 per mile of line owned — a figure considerably in excess of the average net capitalization of the railroads of the country.

The first step taken by the syndicate, after it had acquired practically all the capital stock of the Alton road, was to issue $40,000,000 of 3 per cent. bonds. This amount, it should be noted in passing, was $6,000,000 more than the total capitalization at the time. It was stated that these bonds were issued in order to retire maturing obligations amounting to $8,500,000,

[1] 12 I. C. C. Rep., 340. Further details and analysis are to be found in *The Journal of Accountancy*, July, 1907, especially at p. 223 *et seq.*

to make improvements and additions and for other corporate purposes. These bonds were issued to stockholders, i.e. to the syndicate, at 65 per cent. of par. The bulk of these was promptly resold to the public, including the New York Life Insurance Company, at prices ranging from 82 to 94. Had these bonds been sold directly to the public, the Alton road would have realized about $8,000,000 more than it in fact received. As it was, this sum went as profits to the syndicate.

The next stage in the reorganization was the declaration of a 30 per cent. dividend to the shareholders, i.e., to the syndicate. Nearly seven million dollars was thus paid by the railway company out of the proceeds of the bond issue—there being no other funds available. This cash dividend, made out of the proceeds of a bond issue, was covered up by a readjustment of the road's accounts. At the outset the existence of a large bookkeeping surplus was noted; and it was estimated that appropriations for betterment and improvement, paid out of income during many years past, together with other items of ancient history, had rendered the property worth much more than appeared upon the books. Consequently, against the increased liabilities created by the new bond issue, was set off among the assets the item of $12,444,000 for "construction expenditures uncapitalized." Thus was conservative financing in the past made to enrich, not the railroad company but the private individuals who owned its stock. And the payment of a dividend out of the proceeds of a mortgage remained undisclosed to the world at large. Other minor details of the transaction, such as the use of $8,600,000 of the proceeds of the bond issue to pay coupons then due on other obligations, and the turning of other debts of the company, which should have been paid, into an apparent asset to be capitalized, were all directed to the same end. The main result of the creation of $32,000,000 of bonded indebtedness, was less than $6,000,000 in cash to be spent upon the property.

The third transaction by the members of the syndicate was to sell all their holdings of stock in the old Chicago & Alton Railroad to a new company, the Chicago & Alton Railway, of which they were the incorporators. For the preferred stock, which had cost less than seven million dollars, and which had received a special dividend of 30 per cent., the new company paid them $10,000,000 in cash. For their 183,224 shares of common stock of the old company, which had cost $32,000,000 and on which they had received a special dividend of about $5,500,000, they took in exchange 390,318 shares of the new railway company. Part of this was then resold by them to the Union Pacific railroad, which was absolutely controlled by Mr. Harriman; and about three-fourths of the common shares finally turned up in the treasury of the Rock Island Company. To meet its obligations to the syndicate, including the purchase of a piece of new road at an exorbitant price, the new railway company was called upon to raise some $13,000,000 in cash. This was effected by mortgaging the shares of the old railroad company, just purchased, for $22,000,000. These new collateral trust bonds were taken by a member of the syndicate at 60, although they soon openly commanded a price of from 78 to 86. The exact amount of profit to insiders at this point was never disclosed. One detail of the new mortgage may be added. It was supposed to cover some thirty-four miles of road in process of construction; yet it subsequently developed that no funds were reserved from the proceeds for that purpose. New securities had to be issued in order to complete it.

All these operations were obscured in the published accounts of the company. The balance sheet of 1906 included the item "cost of road, etc.," at $117,000,000. In the preceding year it had been only $66,700,000. On the liabilities side, this difference was partially evened up by an increase in "funded debt" from $27,000,000 to $72,350,000. To the uninitiated it would appear as if the proceeds of large new bond issues had been expended upon the road. Yet so completely was the treas-

ury gutted, that the new Rock Island management on assuming control was compelled to issue car-trust notes in order to procure equipment indispensably needed to meet the demands of traffic.[1]

The incentive for this capital expansion appears in the profit of $23,600,000 made by the syndicate as a result of its financiering — profit a large part of which should have accrued to the railroad company. First, there was the profit on the initial sale of bonds at an absurdly low price; then a 30 per cent. extra dividend from the proceeds of a bond issue; then a sale of preferred stock at a fancy price in cash to the new railroad company. This was followed by a sale of remaining stock to the Union Pacific and Rock Island companies at exorbitant figures; by the sale of a branch line for more than it was worth; and lastly by the sale of the final large bond issue to insiders at a ridiculously low price. All this was capped by the supreme insult of a payment of over $100,000 to the main conspirator as an extra salary for financing the enterprise.

The only excuse offered, or palliation suggested, for these predatory transactions was that, despite the enormous increase in the total capitalization of the Alton road, the character of its securities was so readjusted that it could still be counted upon to meet its fixed charges out of earnings. Although dividends on the stock had to be discontinued and the market price of its shares shrivelled to almost nothing, so low were interest rates on the new bonds and so thoroughly concealed were the main facts until the new issues were floated, that the Alton did actually, as was alleged, get some $22,000,000 of cash for improvements and additions at an additional charge on larger earnings of $660,000 a year; in other words at a cost of only about 3 per cent. The new plan, in brief, substituted bonds and guaranteed stock at low rates of return for common

[1] For a time alternate management by the Rock Island and Union Pacific companies was agreed upon, in view of their joint investment, but in 1907 it was turned over to the "Clover Leaf," a Hawley road. P. 532, *infra*.

stock which formerly paid large dividends. Interest requirements did not expand in proportion to indebtedness.[1] But how about the burden of this indebtedness when it matured? Bonds which realized to the company less than two-thirds of their face value must then be redeemed at par. And, in the second place, the control of the property was now most effectually divorced from the real ownership. For the real value was fully covered by the bonds outstanding, while responsibility to the public for the management of the road was vested in the possessors of an almost worthless stock.

Provision of new capital for extensions and betterment — a very necessary and frequent financial operation on a growing property — may or may not lead to undue inflation of capitalization in proportion to assets. Everything depends upon the terms under which the funds are secured. The problem naturally divides itself into two distinct parts, having to do with offerings of bonds and stock, respectively. These two are so different in essence, that they should be considered separately. But in one respect both stock and bond offerings resemble one another closely. Just in so far as the subscription price to stockholders for either class of securities is below such a fair market value of the new offerings as would enable them to be fully taken by others, the subscribers gain at the expense of the corporation. Its capitalization will be enlarged in relation to the capital, more than it need be.

But offerings of this sort to shareholders possess several collateral advantages over an appeal to the general public. Bankers' commissions on a public underwriting are saved; and whatever bonus is given goes to augment the loyalty of stockholders, who may thus the more confidently be relied upon to come forward again. Offerings of new securities to shareholders on specially favorable terms, moreover, may be made a means of increasing nominal capitalization and of thus making pro-

[1] P. 110, *supra*.

vision for more generous returns to stockholders than it would be best to advertise by an outright increase of the regular dividend. It is this last motive which sometimes lays the corporation open to the charge of stock-watering. Whether this charge is deserved or not would appear to depend upon the amount of bonus conferred, which may readily range all the way from so considerable a sum as practically to constitute a stock dividend, to a "right" with no greater value than is sufficient to induce the shareholders to accept the proffered terms. It may be a voluntary offering at such discount below the market price as to stamp the operation as a mere blind for increasing capitalization. It may be a forced offering, due to inability of the company to sell bonds publicly for the completion of improvements partially effected, or to meet some other imperative need.

The particular mode of financing chosen to meet needs for new capital will largely depend upon whether the present shareholders can be relied upon to take up the new securities. Obviously, if the new investment is bound to yield a larger return than the current rate of interest on bonds, the shareholders may reserve the surplus earnings to themselves in either one of two ways. The corporation may borrow at the going rate by issuing bonds, which of course do not participate in present or future surplus earnings but leave that increment to be divided among shareholders;[1] or the company may issue new capital stock for subscription among its shareholders. But unless all this new capital stock be taken by shareholders, it is better to issue bonds; for otherwise the growing earnings will have to be shared equally between the original and the eleventh-hour investors. This alternative has led to the use of a device by which shareholders, who are not in a position to subscribe to new capital, may transfer their "rights" to others and still share in the benefits of the increase. This is the method of the so-called "privileged subscription."

[1] P. 110, *supra.*

A single illustration may serve to make the procedure clear. Suppose a corporation, whose stock commands a price of $200 per share and regularly pays 8 per cent. dividends, doubles its capitalization by the issue of one new share at par ($100) for each share then held. At first sight it would appear that each shareholder would receive, for $100, a new certificate which he could at once turn about and sell for $200, that being the original market price. But, obviously, the increase of the share capital by 100 per cent. dilutes the value of each share. One might expect that the market price would be cut in half. This will not happen, however, if the company is clearly able to continue to pay its regular dividend. The value of the total capitalization rests upon its probable income. Nevertheless, after the issue of the new shares, these and the old ones alike will probably at first sell down towards $150. At that price the original shareholder will continue to possess his one share; and in addition he will have the "right" to obtain a new share for $100 which will obviously be worth approximately $50 to any one else. He has split his investment by allowing the immediate value of his original share to be cut by one-quarter; and by accepting $50 for the "right" which he has sold. He would appear to be no better off than before. He would appear to have eaten a quarter of his cake. But the crumb of comfort lies in the fact that, if the company is demonstrably able to continue to pay the same regular dividend, his income is not affected; and hence the price of his original share may soon rise toward its former level. He will then have profited by an extra dividend of $50 per share, whether he himself subscribed to the new stock at par, or sold the right to do so to another person.

The foregoing example is an extreme, though by no means an impossible one. Instances could be given of rights ranging all the way up to $200 per share. In some companies, like the Illinois Central during the '90s, stockholders have received as much as 4 or 5 per cent. annually from rights, in addition to

their regular dividends.[1] Stockholders' bonuses have been notably liberal, also, on the Canadian Pacific. Ten privileged subscriptions within the brief period 1902–'13 were offered, with rights ranging in value from $5 up to a maximum of over $20 per share at the end. The total market value of these rights was $76 per share. The aggregate return, comprising both rights and dividends, exceeded 15 per cent. annually during six years of this period. The most extraordinary case is that of the Great Northern Railway, whose stockholders' returns from subscription rights have greatly exceeded their income from the regular 7 per cent. dividends. The method commonly used is to increase the share capital by successive steps of from 10 to perhaps 33⅓ per cent. at a time. Thus in 1904 the Southern Pacific authorized a new issue of preferred stock at par to all common shareholders, in the proportion of one new share for each five shares owned. The market price of the stock was then about $118. If each old share had entitled its possessor to one new share at par, which would command a price of $118, the right would have been worth $18 per share. But the premium above par on one new share had to be divided among five old shares; and, moreover, this premium had to be reckoned at the price of the stock, not before but after the increase in its amount. In other words, the value of the rights had to "come off" the price; just as in the preceding instance it cut the price from $200 to $150 per share. Taking out one value of the right for the drop in market value, and dividing the balance into five parts, each equal to a right, we find that the right was worth one-sixth of the premium, or $3 per share; the market price after the increase becoming $115 per share. The old shareholder could purchase something worth $115 for $100, for each five shares held; or he could sell his rights for $3 a share to any one else, who by purchasing five at $3 each, could acquire the same privilege of subscription at par. Such

[1] *Quarterly Journal of Economics*, vol. XIX, 1905, pp. 231–269. Also *Annals Amer. Acad. Pol. Science*, May, 1910.

is the nature of the computation of values in privileged subscriptions. As for various technical details, those are of special rather than of general interest. Whether the stockholder subscribe and then sell his new shares; "sell short" at once and "cover" by the new shares when issued; merely sell a portion of his present holdings and replace the old with new shares; or sell his privilege outright — these are matters of financial detail.

The main questions of wider concern are: whether transactions of this nature constitute stock-watering or not; and what attitude public authorities ought to adopt toward them.[1] It is clear that the "privileged subscription" must offer the new shares at less than the market price, else all incentive to subscribe will be absent. This was the error in the Massachusetts anti-stock-watering law, as we shall soon see. Occasionally, as in the notable Pennsylvania subscription of 1903, the market quotation may drop below the offered price, so that outside underwriting support may be needed to prevent utter failure of the transaction.[2] This, however, rarely occurs, and — except to the corporation in need of funds — the important point is not so much the relation between the market and the subscription price, as the relation between the subscription price and par value. It is the amount of new capital acquired in proportion to the new capitalization liability created, which affects the public in future. From this viewpoint it appears indisputable that all issues of capital for less than par value paid in are in the nature of stock-watering. It will be observed, however, that an offer of stock below par may arise from two diametrically opposite situations. The company may be over-prosperous, seeking, that is, to dispose of surplus earnings in this way; or it may be already in such straits, — so heavily burdened with indebtedness, — that it can have

[1] *Cf.* Evidence in Proposed Advances in Freight Rates, etc., 61st Cong. 3rd sess., Senate Doc. no. 725, p. 4149, and index under "Stockholders' Rights."

[2] P. 136, *supra*.

recourse to no other expedient than the issue of capital stock for whatever it will bring, regardless of par.

Stock issues *below par*, as a means of distributing surplus earnings, differ only in degree from outright stock dividends. When the Great Northern road in 1898 issued new stock of a par value of $100 to its shareholders at $60, it nearly doubled its capital liability in relation to its addition of funds. How surplus is distributed by this means is readily demonstrable.[1] Thus, a company having assets of $125,000,000 capitalized at only $100,000,000 has a surplus of $25,000,000. If 100,000 new shares are issued at $80 in cash, this brings up its capitalization to $110,000,000, and its actual capital to $133,000,000. Its surplus has now dropped to $23,000,000, the diminution being exactly equivalent to the discount at which the shares were put forth. If the shares of the Great Northern had been put forth at par instead of $60, the capital requirements of the company for extension and betterment could obviously have been met by an issue of a very much smaller amount of new stock; and the public in future years would have been relieved of the necessity of providing income for the support of a capitalization never actually paid for in cash. From this point of view, accordingly, the issue of stock for less than par value is detrimental.

Even less defensible is the emission of capital stock below par by a company already unprosperous. In England a generation ago, Parliament committed a grave blunder in permitting certain of its embarrassed railroads to issue shares for less than their face value. The discount in British parlance is known as "nominal additions to capital." That is their equivalent for our phrase, watered stock. In 1909, out of a total share and loan capital for British railways of £1,195,000,000, such nominal additions to capital due to stock issue below par, amounted to £189,000,000, — that is to say, about

[1] *Cf.* the Canadian Pacific special deferred land payment notes of 1913, issued to stockholders at 80.

15 per cent. was watered stock.[1] This has been a fertile source of trouble. The company whose shares have never attained the level of par, which by implication means that its income has never warranted substantial dividends, can surely derive no benefit itself from a still further enlargement of its capitalization; and the public can ill afford the chance of being some day called upon to pay rates for service which shall support the additional burden.[2] To railroads or other corporations in this plight, only one conservative course is open. There must be rigid economy; and every penny of income above interest charges must be devoted to upbuilding the plant to such a point that additional borrowing on favorable terms will become possible. The only alternative, possibly, would be to issue a small amount of preferred stock, which by reason of its preference could be successfully issued at or above par.

Statutory prohibition of issue below par has been the policy in Massachusetts for many years. Eighteen commonwealths have actually embodied it in their constitutions. West Virginia stands alone in expressly giving sanction to issuance for less than par. While, in rare and peculiar cases, such prohibition may have worked hardship, and in cases of consolidation of companies may at times have been ineffective, it has in the main been productive of great good. The proposal of the Federal Securities Commission of 1910 to abolish par value altogether, offers an ingenious way out of the predicament of a company so embarrassed that it cannot sell bonds except at ruinous rates. This plan, already discussed,[3] would permit stock to be sold for its actual value, — that is to say, for what it would bring. It is our conclusion, however, that the invitation to speculative activity, together with other

[1] McDermott, Railways, p. 176. In France bonus shares are generally regarded as bogus shares.

[2] *Cf.* the Erie issue in 1912 of bonds convertible into stock at 66⅔. Is it a valid defence that this was capitalization of past earnings put into the property? *Cf.* p. 290, *infra*.

[3] P. 91, *supra*.

disadvantages already stated, are sufficient to warrant condemnation of the proposal. At all events, as long as stock continues to bear the dollar mark, that sign should mean something. It is pure misrepresentation to allow a security to go forth, bearing upon its face a value which is wholly or in part fictitious.[1] The latest rules of the Interstate Commerce Commission for drawing up the balance sheet recognize this fact. A special item, denominated unextinguished discount on capital stock, must exhibit the difference between capital liability created and the funds acquired therewith. In other words, the accounts must show the difference between the nominal and the actual investment of the owners.[2]

With privileged subscriptions to new stock *at or above par*, the case is quite different. No stock-watering, using this phrase as above defined, would seem to be involved. Moreover, the effect of a new issue at par is to decrease the "water" in an already over-capitalized company; for it tends to equalize the investment and the nominal capitalization. Suppose a railroad to be equitably worth $90,000,000, with a share capital of $100,000,000. Each share, as assets, is worth $90. If 250,000 new shares be issued at par, the capital investment rises to $115,000,000, while the capitalization becomes $125,000,000. This would bring the value of each share to $92.[3] Thus in an already over-capitalized concern the average investment rises with each new issue at par. If on the other hand the company were already under-capitalized, a similar issue of new stock would reduce the market value of each share. In this sense, the issue of stock at par is not stock-watering at all. Yet it is a very efficient means of distributing both present surplus and future earnings, the more so in proportion as the market price

[1] *Cf.* discussion by Commissioner Maltbie; Pubs., American Economic Association, 3rd Series, vol. X, p. 417; as also p. 386. And *American Law Review*, vol. XXVI, p. 816.

[2] *Cf.* p. 37, *supra*.

[3] Compare especially the Antigo Water Company case, 3 W. R. C. Rep., 647 *et seq.*

of the shares rises above par. Excessively valuable rights, over and above a figure necessary to insure the needed new capital, serve to conceal the real earning power of a system and to confuse the public mind in matters of rate regulation.

In order to prevent an undue distribution of surplus earnings by means of "privileged subscriptions," it is possible to issue new shares of capital stock at a figure above par. This premium of course may still be so far below the prevailing market price as to yield a profit to the participating stockholders. The success of the issue to the corporation in need of funds is thus assured. And from the public point of view, the increase of capitalization is actually less than the accession of funds for improvement of the service. A considerable premium in the market value of shares, such as to make this an important question, has appeared only since 1900 for the larger part of the United States. But in the densely populated portions, with old established and prosperous companies, it has long been a matter of public interest. On the Pennsylvania, in 1913, premiums on new shares issued within a dozen years amounted to over $43,000,000, all of which funds, of course, went directly into the property without at the same time being represented in any way in its capitalization. The experience of Massachusetts, soon to be reviewed, in attempting to regulate the amount of these premiums will throw more light upon the subject.

In passing, it may be mentioned that the nature of rights has several times in Massachusetts come before the courts for interpretation in connection with trustees' accounts. The first decision had to do with a stock dividend of the Massachusetts Electric Companies. In this instance the court decided that the company was in no position, financially, to make a distribution of this sort and that, in consequence, the dividend was paid from capital account and must be treated accordingly as the principal of the trust. A different interpretation was given concerning the Delaware, Lackawanna &

Western dividend in stock of another company.[1] This opinion ran to the effect that the dividend was declared from accumulated profits and, therefore, might well be treated as income. These two decisions, in short, recognize the distinction, already described, between the status of a weak and a strong corporation.

If the price at which new capital stock is issued is a matter of public concern, what shall be done in respect of the terms under which bonds, convertible at some future time into stock, are offered? A nice question of this sort came before the Massachusetts Public Service Commission in 1913.[2] The New Haven road petitioned for the approval of an issue of $67,562,000 of convertible debentures for the purpose of funding its floating debt and for improvements. The majority opinion of the commission gave consent perfunctorily; but the dissenting one went into the matter with care and marked ability. Authorizing an issue of bonds convertible into stock at par for a period of ten years beginning in 1918, it was urged, involved practical approval at present of the price of an issue of stock in the distant future.[3] As the Massachusetts law then stood, the initial price of new stock, although fixed by the stockholders, was subject to the approval of the commission, as to the public interest involved. In 1905 the market price of New Haven stock was $185. In 1913, it was $78. With so wide a range, where might it not stand after the lapse of ten years? The practical impossibility of an administrative body foreseeing what conditions might prevail at conversion, was pointed out. This dissenting opinion was upheld by the supreme court which, principally on this ground, reversed the approval accorded by the public service commission.[4] In

[1] *Gray v. Hemenway*, decided June 12, 1912. *Cf.* p. 231, *supra.*

[2] 1 P. S. C., 99; decided Oct. 14, 1913. [3] P. 163, *infra.*

[4] 216 Mass. Rep. 432. Whether the price which the company receives for its securities originally, is the price for which they are sold; or whether it is the price under which conversion takes place, is a rather difficult point to settle, depending upon whether the matter be viewed in the interest of the corporation or of the stockholder.

New York, on the other hand, the Erie bonds of 1912, convertible into stock at $66\frac{2}{3}$, seem to have successfully run the gauntlet of public approval.[1]

Is the issue of bonds at a discount similar in nature and effect to the emission of new capital stock below par? For many years, under steadily declining rates of interest, this question promised to become only of historic interest or, at all events, to be confined to the financing of new or highly speculative properties. But since 1909, with the prevalent high rates for money, few public service corporations have cared to risk the appearance of extra hazard by offering bonds at higher rates than 5 per cent. They have in consequence been forced to put forth bonds at figures ranging well below par. Bond discount played a large part in the construction accounts of pioneering roads. Most of them after 1840, as we have seen, were built from the proceeds of bond sales; and so speculative did these enterprises appear, that not only substantial discounts below par for the bonds but large bonuses in stock as well were needed to carry the construction forward. Of the first $22,400,000 expended by the Northern Pacific Railroad, approximately $6,000,000 — that is to say, 27 per cent. — was charged to interest and discount.[2] In the Minnesota Rate cases in 1910 the Master in Chancery found, and by the way, disallowed, as a part of the original cost of construction of the roads concerned, no less than $24,700,000 charged to discounts and commissions in selling bonds.[3] How formidable such an item may become with weak or discredited roads

[1] P. S. C., 2nd D., 1912, I, p. 238. *Cf.* also the Erie issues of 1903–'05, convertible at $50 or $60. The Railroad Securities Commission of 1910 recommended in addition to the requirement of amortization of discount on the bonds, the additional restriction "that after conversion the laws governing the amortization of discount on stock sold below par should apply also to the unamortized discount on convertible bonds. While the convertible bonds themselves may be sold below par, the conversion price of the stock should equal its face value."

[2] Washington Railroad Commission Reports 1907–'08.

[3] Whitten, Valuation, p. 285.

appeared in connection with the receivership of the "Frisco" in 1913.[1] Within a decade this railroad had sold bonds for $32,000,000 less than their face value. Two distinct items are recognizable in such cases. The bankers' or underwriters' commissions are, of course, entirely distinct from the actual bond discount. Thus, securities may be sold at $85 to a syndicate which markets them at $90. But from the point of view of the railroad, the two expenses are cumulative and may be treated indistinguishably.

The accounting practice in the matter of bond discount must be clearly understood. Suppose a company organized with $100,000,000 of bonds sold at 80, the stock, which as yet has no value, being given as a premium. Upon the books there must appear first among the liabilities, $100,000,000 of indebtedness. Had the bonds been sold for par and the proceeds all been expended upon the road, this would be balanced on the assets side by a similar amount for "cost of road." But actually, the road cost only $80,000,000, that being the proceeds of the bond sale. The almost universal practice has been to even up the balance sheet by an item among the assets, of $20,000,000 as "discount on bonds." In the accounts of the Erie during the black period of its fraudulent mismanagement, the item "discount on sale of convertible bonds" rose from $4,700,000 in 1868 to $47,000,000 five years later. Inasmuch as the total capitalization was then only $155,000,000, almost one-third of its listed assets were thus purely fictitious.[2] The ostensible addition to the investment, according to these balance sheets, was due solely, of course, to the necessity of balancing up the liabilities created through the fraudulent issue of large amounts of bonds. No such proportionate investment had taken place during the interval. An equally flagrant example of misrepresentation occurred on the old Atchison road prior

[1] 29 I. C. C. Rep., 139.

[2] Hepburn Committee, pp. 18 and 843; also Ripley, Railway Problems, chap. I.

to reorganization. Its books showed among assets no less than $40,000,000 as discount on bonds and allied items. As the total "cost of road" item was only $95,000,000, discount on bonds was well on toward half the entire book value of the property. It was really deferred interest; or rather, a substitution of low immediate interest payments for enlarged capital obligations falling due at the end of the term. Thus, for example, fifty-year 5 per cent. bonds, issued at 84.2, in the long run really cost 6 per cent. The discount, therefore, in all these cases should properly have been charged to income account, not reckoned as an asset at all. The liability which must be met on maturity of the bonds is in no wise diminished by this accounting practice. But what else could be done? This sum might have been taken outright from the first earnings and charged to income, or even perhaps prorated over the life of the bonds. Conceivably the earnings were not yet sufficient to permit such deduction. Additional bonds might have been issued to place this sum in the treasury; but the difficulty would then be that they again swelled the liabilities. Hence in the good old days the company too often chose to cover up the item entirely by juggling its statement as to cost of property.

The best practice respecting bond discount lies intermediate between two extremes; of prohibition on the one hand, and entire freedom on the other. A fair mean would seem to be struck by permitting the issue of bonds below par wherever actually necessary, but requiring amortization over the life of the indebtedness. Massachusetts is unique in following out the first course. No bonds may be emitted below par.[1] New Jersey for some years stood at the opposite pole by permitting public service companies to issue bonds as low as $80 without any approval whatsoever by public authority. Wisconsin has improved upon each. Its commission has most

[1] Even the proceeds of a premium on bonds at issue may be applied only after approval, as held in the Boston & Albany bond issues of 1912. The Gas and Electric Light Commission prescribes such terms and rates of interest as to insure marketing at par.

intelligently distinguished between bond issues below par as a necessary incident to new or hazardous enterprises, and their emission as a subsequent means of inflating capitalization.[1] It would seem as if this distinction were an entirely proper one. It conforms to sound business policy. The Interstate Commerce Commission, to be sure, has as yet no control over actual financing; but its prescribed form of accounts requires that sufficient unextinguished discount shall be charged off from income year by year to take up the slack on maturity of the bonds. The Seaboard Air Line, for example, having in 1909 issued a large block of bonds at 70, in connection with reorganization, had $10,588,000 of unextinguished discount on its books in 1912. By charging off $248,000 a year for this purpose, it made provision for the future when this debt had to be paid off at par. At times, as the Federal Railroad Securities Commission urged, if the service is needed and the capital can be had on no better terms than by borrowing at a discount, the expense of deferring interest is properly enough a part of construction cost. But always to permit such discounts to go in capital account, surely puts a premium on poor credit. For, obviously, the poorer the credit the greater the discount; and hence the larger the capital basis to be supported by rates for service. No company should be encouraged to capitalize either its poverty or its lack of credit.

[1] *Cf.* especially the Antigo Case, 3 W. R. C. R., 647; and the Superior Case, 10 *ibid.* 735. The Michigan Commission sometimes permits the capitalization of discount and in other cases requires amortization. The practice varies in the different states. In New York the Public Service Commission requires discount to be charged to a suspense account known as "Unamortized Debt Discount and Expenses." Maryland forbids charging discount to capital. The New York Subways in 1911 sought in vain to have discounts included in cost of construction. In Washington the commission has an arbitrary rule allowing 5 per cent. on 75 per cent. of the cost of reproduction. The Cleveland (1909) and Chicago (1906–'10) street railway settlements allowed something "for services in procuring funds." Whitten, Valuation, etc., chap. XIII, gives other details.

CHAPTER IX

STATE REGULATION OF SECURITY ISSUES

A SUBSTANTIAL economic warrant exists for the exercise of control by the state over the issue of securities of public service corporations. But grievous misconception prevails as to the exact way in which over-capitalization, so-called, really puts the public interest in jeopardy. Aside from the losses to private investors, what, in point of fact, are the evil consequences to be feared and averted? The prevalent view underlying most anti-stock-watering legislation is that the prevention of over-capitalization is incidental to the making of reasonable rates. This was peculiarly true in the early days before the courts evolved the doctrine of the fair value of property as a basis for charges. In this connection stock-watering impinges upon physical valuation.[1] It seems to be true that, although the connection between capitalization and rates is not immediate,

[1] Chapter X and XI, *infra.*

the volume of outstanding securities may oftentimes be indirectly a factor of considerable moment in rate-making. But there is a far more weighty plea in the public interest for the prevention of unwise financing.

The strongest argument against over-capitalization is that it tends to interfere with proper maintenance — with the making, that is to say, of needed improvements and the rendering of satisfactory service. This is frankly conceded nowadays by official spokesmen of the carriers themselves.[1] Public interest in this regard merely confirms the dictates of business prudence, in the demand that a corporation should always hold itself in readiness to issue stocks or bonds advantageously in case of need. This it certainly cannot do, except under prohibitive penalties, if its bonds stand at heavy discounts and its stocks are quoted at merely nominal figures. This point cannot be too strongly emphasized. It is not primarily that the public suffers, as a result of over-capitalization, because a railroad is unable to pay a return on all its outstanding securities without raising rates; but that interest and dividends may for a while be paid by the diversion of earnings which ought properly to be spent on maintenance and improvements. However the matter be viewed, it is the effect of over-capitalization upon maintenance, development and adequate service, and not its effect upon the level of charges, which should occupy the forefront of the argument.

See how things work out in practice! The expropriation of the surplus of the poor old Alton road[2] may or may not have affected its ability thereafter to charge higher freight rates than its competitors. However that may be, the fact that the treasury was so completely gutted that the Rock Island interests on taking over the property, were compelled at once to issue equipment notes at ruinous rates in order to do any business at all, was the feature of public concern. All

[1] *Railway Age Gazette*, vol. LVI, 1914, p. 61.
[2] Details p. 262, *supra*.

experience confirms this view. Consider the utter break-down of service in New England in 1912–'13, the intolerable delays and appalling accidents, as a result of the New Haven collapse. It was because all financial resources had been dissipated in seeking "monopoly at any cost," that not a penny remained, or could be raised, for the real business of transportation. Or, if you please, consider the metropolitan traction companies in New York.[1] Millions of dollars were lost through the knavery of their managements; but fares remained at five cents throughout. Where the public suffered was through the pitiful collapse of the service. Despite the fact that the maximum life of street railway equipment was ten years, the surface roads made practically no allowance for depreciation from the organization of the Metropolitan Street Railway in 1893. For five years preceding the receivership not a new car was bought; and it was beyond the power of the company to buy. So completely had every resource been exhausted, that funds were not to be had on any terms in order to put the service on its wheels. In brief, it was the collapse of the service attendant upon financial prostration due to stock-watering, which aroused public opinion and led to reform. To protect the standard of service in this way is, perhaps, even more vital an element in governmental policy than everlasting insistence upon reasonable rates. When service collapses, unlimited losses amounting to total confiscation fall upon the community. Unreasonable rates may take a part, indeed, but never the whole.

Public policy in the matter of protection of common rights with regard to rates and service and, incidentally, of the interest of investors in the domain of railroad finance may assume either of two forms. The more modest one relies upon mere publicity as a safeguard against abuse. The other, more radical in type, seeks positively to regulate the amount and nature of the securities issued and thereby to exercise a strict and definite control over every detail of financial management.

[1] *Cf.* footnote p. 287, *infra.*

In view of the imminence of legislation by both the United States and Canada in this field, it is important to understand the advantages and limitations of each of these plans.

Strict and complete publicity, without further specific regulation, is the policy ably advocated by the Federal Railroad Securities Commission of 1910.[1] This body held that too much stress was being laid upon "keeping down the nominal amount of stock, and too little upon getting the actual amount of capital needed and having it properly used." Emphasis was also laid upon the ease with which state statutes for this purpose might be evaded. Moreover, it was repeatedly urged that the Federal government in seeking to standardize railroad finance must beware of the appearance of a guarantee of quality. As phrased by the Railroad Securities Commission (1911):

> "We are told that if it was possible to standardize food by a pure food law, it ought to be possible to standardize railroad securities by a securities law. It is possible — to the same extent and no more. The pure food law enables a man to know what he is buying. It does not certify that the thing he buys is good for him. That is left to his intelligence. The government cannot protect the investors against the consequences of their unwisdom in buying unprofitable bonds, any more than it can protect the consumers against the consequences of their unwisdom in eating indigestible food."

The importance of this warning, that not even an implied guarantee of securities approved for issue follows their certification by a public commission, is found in the embodiment of such a disclaimer in all of the newer public service commission laws.[2]

The two general policies, mentioned above, as to the attitude of the government toward corporations — first, the older view

[1] Ripley, Railroads: Rates and Regulation, p. 573.

[2] Commission Regulation of Public Utilities, compiled by the National Civic Federation, New York, 1914, with its model or draft bill published, Oct. 23, 1914; *Annals Amer. Acad. Pol. Science*, LIII, 1914, no. 142, contains many papers on the whole subject. *Cf.* evidence for the I. C. C. before Senate Committee on Interstate Commerce, June, 1914, and especially *American Economic Review*, vol. IV, 1914, pp. 588–601.

that, being creatures of the state, they should be guaranteed by it to the public in all particulars of responsibility and management; and the modern, quite opposite theory that, in the absence of fraud, an ordinary business corporation should be given a wide latitude in matters of organization and government — are admirably contrasted by the Massachusetts Committee on Corporation Laws of 1903.[1] The attendant revision of corporation law in this state marked a turning point in policy. The modern theory was accepted, that for ordinary business corporations the state owes no duty beyond providing clearly that creditors and stockholders shall at all times be accurately informed of all facts attending both organization and management. Such, likewise, is the policy adopted by modern European states with respect to private corporations.[2] Great interest in this field of late is shown in the passage since 1908 by no fewer than eighteen American commonwealths of so-called "Blue-Sky" laws.[3] These statutes seek, in the main, the protection of confiding investors against fraudulent promotion; but their significance for us at this time lies in their avowed acceptance of the policy of complete publicity. With that, however, they are thus far content.

Is a passive policy of mere publicity in matters of finance, being thus more and more applied to ordinary corporations, adequate for dealing with railroads and other public service companies? The answer, so far as our separate state governments are concerned, is found in the action already taken during the last few years. For a long time Massachusetts and Texas stood alone in dealing with railroads by a more positive programme of strict financial regulation. Their experience is reviewed later.[4] But since 1908, partly as a result of activity

[1] Ripley, Trusts, Pools and Corporations, chap. XV.

[2] *Ibid.*, pp. 393–428, on England and Germany.

[3] Arthur N. Ayres, Governmental Regulation of Securities Issues, *Political Science Quarterly*, vol. XXVIII, 1913, pp. 586–593.

[4] On state commissions in general, *cf.* Ripley, Railroads: Rates and Regulation, chap. XX.

by the Federal government in rate regulation, no fewer than thirteen other states have followed in their train and have set up public service commissions of one sort and another.[1] Unlike the Federal government, these states have not been content to stop at rate regulation or even supervision of operation. They have all extended their authority over financial matters as well. These new powers of regulation seem to be intended less for the immediate protection of capital than for the attainment of reasonable charges and satisfactory service. In outline, the laws define the issue or exchange of securities as the exercise of a special privilege calling for a formal license from the state. Such authorization is given only after public procedure in order to ascertain: (1) the amount and character of the expenditure, that is to say, the exact purpose for which the new securities are to be issued; (2) the public necessity or advantage of such action; and (3) the precise terms of the offering, together with the effect upon the financial status of the corporation.[2] Formal proof in these matters is followed by permission to issue the securities. And such authorization must in due time be succeeded by certification that the details of the prescribed programme have been duly observed.

The experience of New York in regulating capital issues is most illuminating — because of the magnitude of the interests involved; because, unlike the western states, financial rather than rate regulation has been the main object of interest; and because of the exceptional ability and intelligence of the members of the administrative boards. For many years the old

[1] The thirteen states which have recently embarked upon such financial regulation, in addition to Massachusetts and Texas, are New York, Ohio, Missouri, Indiana, New Hampshire, Michigan, Wisconsin, Nebraska, Kansas, Arizona, California, Vermont, and New Jersey. For details consult Commission Regulation of Public Utilities, chap. XII.

[2] The necessity of strict definition of such delegated legislative powers arises from judicial decisions to the effect that without specific rules for the guidance of an administrative board in exercising control over the issue of securities the statute is unconstitutional. (*State* v. *Great Northern Railway*, 1907, 111 N. W. Rep., 289.)

railroad commission had been an utter nonentity, abjectly subservient to the powerful railroad and trolley companies. In 1893, just before the formation of the Metropolitan Street Railway, when, for some reason, the commission refused its approval of a $6,000,000 stock increase of the Pavonia Ferry road, Thomas Ryan and his friends had the securities printed just the same and then exchanged them for a like amount of Metropolitan Street Railway stock.[1] To this high-handed proceeding the railroad commission interposed no objection. Under the initiative of Governor Hughes, two separate public service commissions were created in 1907, one having jurisdiction over corporations within the First or metropolitan district; the other, with headquarters at Albany, being charged with responsibility for the rest of the state. It is this Second or up-state commission which has mainly had to do with railroads; but the same principles have been involved in supervising the financial operations of the public service companies in New York City. Some measure of the restraint exercised by the metropolitan commission may be gathered from the fact that, within four years from its creation, only $89,000,000 out of a total of $307,000,000 requested by the companies, was approved. As for the up-state commission, within the first six years it authorized the issue of $439,890,000 of bonds and $50,820,000 of stocks by railroad companies alone.[2] Within this time,

[1] The details of Metropolitan Street Railway finance are contained in the first four years' reports of the First District Commission. They are also reviewed in a series of articles by H. A. Bullock in the *Boston Transcript*, Oct. 3–14, 1908; in *McClure's Magazine*, Nov. and Dec., 1907, and Jan. 1908; and *Annals Amer. Acad. Pol. Science*, vol. XXXI, pp. 535, 612.

[2] State Regulation of Public Service Corporations in the City of New York (P. S. C., 2nd D., statement of Sept. 1, 1911), p. 45; 1 P. S. C., 2nd D. (1912), 113. Securities may not be authorized for more than one year without the approval of the commission, and then only for: (1) acquisition of property; (2) construction, completion or extension of facilities; (3) improvement or maintenance of service; (4) discharge or lawful refunding of obligations. In other words, three distinct purposes are contemplated: investment for the future on capital account; reimbursement of past expenditure on capital account; and refunding of obligations. The Seventh Annual Report of the up-state commission (p. 100) succinctly summarizes the main principles of its capitalization policy.

practically every railroad in the commonwealth appealed to it for allowance of security issues for almost every conceivable purpose. The experience though brief is certainly most significant.

Concrete cases best describe the New York practice in improving and standardizing public corporation finance. In the field of railroad building, a bar is set against the classical abuses and financial manipulation.[1] Capital accounts must be closed when building stops. Operating expenditures may not be capitalized even for a brief period; nor is allowance for experimentation at the expense of the public permitted.[2] Insistence upon the clear distinction between capital and income account which lies at the foundation of all sound financing, is continued throughout. In the second place, the issue of securities in order to pay for mere replacement of property has been severely condemned in a number of instances. The Lehigh & Hudson River road in 1909 was thus forbidden to sell bonds in order to reimburse its treasury for payments not properly chargeable to capital. On the other hand, expenditures made for investment in the property from income may with entire propriety — and, since amendment of the law in 1910, legally as well — be paid for through the issue of stocks or bonds. The Erie, in 1912, having satisfied the commission that within five years it had spent $12,000,000 out of earnings upon its property, was permitted to capitalize it.[3] As to whether non-revenue-producing expenditures, such as abolition of grade crossings, should be entirely capitalized, is a nice question depending upon one's view of the nature of surplus revenue.[4]

[1] Chap. I, *supra*.

[2] 3 P. S. C., 1st D., 63. In this field of construction finance the admirable review in Whitten's Valuation of Public Service Corporations outlines the policy. Allowance is made for expenses of promotion (p. 265); for working capital (p. 296); for interest during construction (p. 258); for contractor's profits (p. 248); and for general overhead charges such as engineering (p. 229). But capitalization of early losses is not permitted (p. 551). *Cf.* the opposite policy in Wisconsin; 10 Wis. R. C. Rep., 872; and New Jersey, *infra*.

[3] 1 P. S. C., 2nd D. (1912), 238.

[4] P. 240, *supra*.

The up-state commission, noting a disposition to meet all such expenditures through the sale of securities, has wisely declared that the tendency "should be checked and repressed" in the interest of conservative finance. As to the dangerous plan of paying for improvements through the creation of a floating debt, the New York boards are in accord with the Federal Securities Commission in condemning it flatly.

Another group of New York cases is concerned with the issue of securities in connection with consolidation. In the wide field of public utilities it doubtless appears in the common interest to permit a strong concern with low operating costs to absorb small, weak or otherwise handicapped competitors.[1] Yet the price paid for purchase is a vital element to be considered. The up-state commission in such matters adheres to the prudent plan of requiring amortization of the difference between the inventory cost of the physical property acquired and the price actually paid. The Delaware & Hudson case in 1908 showed the necessity of curbing the tendency to water the stock of a strong company through the purchase of subsidiaries at exorbitant figures. This railroad requested authority to issue bonds in order to take up notes representing acquisition of the Hudson Valley Railway together with certain undeveloped coal properties. Investigation revealed a good deal of scandal associated with the purchase of these properties, prior to the creation of the commission. The original transaction was a thing accomplished. The up-state commission had no power to change ownership or to review the expediency of issuing the original notes; but it positively declined to permit long-time bonds to be issued, on the ground that the properties covered by the mortgage were inadequate as to both intrinsic worth and earning power. The case went in the following year to the Court of Appeals, which limited the commission's power through the declaration that the legislature

[1] P. S. C., 2nd D., no. 176, 1914, Rockland Light and Power Co. case. *Cf.* p. 248, *supra.*

had not intended to make this administrative board the financial manager of corporations or to empower it to substitute its judgment and discrimination for that of the directors or stockholders.[1] So much for power to correct misdeeds in the past. But a closer reading of the opinion affirms the inherent right of the commission to prevent the recurrence of such abuses in future. Quite similar is another recently contested case before the New York courts.[2] The New Haven railroad, it appeared, had paid over $900,000 in 1912 for a trolley line which the commission found to be actually worth only $400,000. It consequently limited the amount of New Haven stock which might be issued in payment therefor. The lower court held that whatever the property cost was controlling upon the commission, unless actual fraud was proven. But this opinion was unanimously reversed by the Court of Appeals, in the first New York decision holding that cost of property is not necessarily a controlling factor in capitalization. There was no question of good faith involved, inasmuch as two powerful rivals were bidding against one another at public auction.

The payment of dividends from capital has likewise been prevented by the rulings of the New York up-state commission. The record in this regard showed a slight disposition to wobble; but, in the main, the policy was sound. The leading decision concerned the right of the Erie, in 1909, to pay a scrip dividend to meet its interest requirements. The commission by a divided vote in the preceding year had permitted this company to stave off a threatened receivership, by issuing bonds to anticipate several years' interest payments, on condition that a like amount should be put back into the property during the period in question, out of earnings. Fears were entertained, in view of the absence of positive guarantees by the railroad, that a sound and conservative policy was threatened. But a

[1] 197 N. Y. 1; a precedent followed by Nebraska in 1912 in Fifth Ann. Rep. Railway Commission, p. 177.

[2] 158 App. Div., 251; reversed in 210 N. Y., 456.

subsequent decision prohibiting a stock dividend of 80 per cent. for "property and services," as a cover for largely increased earnings and in order to distribute previous depreciation credit and surplus, manifested adherence to the only wise course to be allowed.[1]

The distinct matter of corporate reorganization, with its attendant increase of securities or perpetuation of preceding excessive issues in the railroad field, has seldom directly engaged the attention of the up-state commission. But the protracted struggle in the Third Avenue Street Railway case[2] shows that the metropolitan commission from this viewpoint also has taken its responsibilities seriously. The closest analogy, indicating the attitude of the up-state commission, is that of the Watertown Electric Light Company in 1909. The commission apparently refrained from an unduly drastic policy in scaling down securities.[3] Unlike Texas, soon to be reviewed, the policy pursued did not seek to undo at one fell stroke a long course of financial excesses in the past. Nevertheless, a wholesome restraint and corrective was applied so far as practicable.

It will be observed that the same broad question is raised in both merger and reorganization cases as to the proper function of public regulation. Is it to be limited to present and future action, or is it to be retroactive in effect, seeking to correct or compensate for financial excesses in the past? It is evident that an attempt to disentangle these successive periods of time is a matter of the utmost difficulty. The results of men's misdeeds generally long outlive them. And yet impatience, in seeking to undo the past at once, may result in as grave inconvenience and injustice as neglect to consider it at

[1] Bronx Gas and Electric Light Co., 1909, case no. 1160.

[2] P. 260, *supra*.

[3] *Cf.* the Binghamton case (203 N. Y., 22, 1907) where it was held that the commission had no power to permit an issue on condition that certain outstanding stock be cancelled; but that it could merely be determined whether the proposed issue was in accordance with the statute. *Cf.* the Fall River Gas Co. case, 1913, 214 Mass., 529.

all. This follows from the well-known principle that financial excesses are bound sooner or later to be reflected in corresponding market quotations for the securities. Innocent holders for value, considered in connection with the substitution of new securities for old under reorganization proceedings, for example, may or may not already have incurred heavy losses through depression in price of their securities. One point is, however, clear — that the sooner a corrective policy, aiming to place the company upon a firm and substantial footing, is adopted, the sooner may the healing forces of nature bring about some measure of restitution.

In several respects the New York commissions have been more liberal, and perhaps wisely so, than those of Massachusetts and some other states. There has been steady insistence from the outset, as in the Interborough Rapid Transit case, upon public offerings of all securities, to the end that the companies may realize the largest possible amount from their financing. But, as we have already seen, the issuance of stock below par and, when necessary, of bonds at a discount has been allowed[1] — the commissions being contented to provide the necessary safeguards through amortization within a reasonable period. The contrast with Massachusetts policy in these respects will soon appear. The extended experience of the metropolitan commission with the New York City Railway has led, however, to a rigid prescription of the manner in which discounts shall be handled in all such cases.[2] Neither the public nor investors may longer be deceived by an item in the balance sheet of "Construction and Equipment $5,000,000," believing it to be a good asset; when, as a matter of fact, $4,500,000 of this sum was discount on notes sold at 70 and redeemed at par within three months. Comparative liberality of policy in New York, too, appears in the allowance of bond issues to provide working

[1] P. 272, *supra*. On prescription of the ratio of stocks to bonds, note the Kings County Lighting Co. cases; P.S.C., 1st Dist., 1911, no. 1273.

[2] The commission regulates more largely through rigid accounting rules, aiming to prevent any capitalization of discounts.

capital and promotion and development expenses.[1] Restraint has also been imposed for the protection of minority stockholders, as in the refusal to permit the lease of the Ontario & Western by the New York Central.[2] And, finally, in the matter of refunding, the New York commissions have in various instances permitted the issuance of the new securities, but only when guarantee was offered, though giving more ample security, that the new bonds, if issued at par, should at least approximate their seeming worth.

The foregoing instances by no means cover all the details of these complicated proceedings, even in outline; but they at least afford evidence of the necessity for close supervision both in the public and private interest, and of the highly satisfactory manner in which the responsibilities imposed by the law in New York have been met. The spirit actuating the service is well summed up in the following quotation from a recent report:

> "While the commission does not, in making authorization of securities, in any way guarantee that the securities so authorized are a good investment, yet it is earnestly endeavoring to bring it about that the financial statements on the basis of which such securities are sold may be such that the investor will not be misled."

It is thus apparent that the features of complete publicity and strict regulation are esteemed to have equal weight under the New York law and practice.

It is broadly significant, also, that in New York state the experience has been quite parallel to that of the United States in respect of conflict of authority between the administrative and the judicial branches of the government.[3] The carriers in both instances have sought refuge from decisions of the commissions in restraining orders of the courts. A notable

[1] New Jersey is even more liberal here, as will soon appear. *Cf.* p. 299, *infra*, for Massachusetts.

[2] 3 P. S. C., 2nd D. (1913), 261. *Cf.* p. 450, *infra*.

[3] Ripley, Railroads: Rates and Regulation, chap. XIV.

instance now in controversy is afforded by the New York Central Commutation Rate case. The commission ordered certain reductions in fares, from which appeal was promptly taken to the appellate court. In January, 1914, a decision was handed down, annulling the order on the ground that the real merits were not passed upon. The inevitable result followed. Resort was promptly had to the legislature, which responded to local pressure and passed a special bill reinstating the rates annulled. This is the lesson of experience everywhere. Until the courts cease to hold it to be their function to review such cases on economic grounds and in the broadest way, the legislature is debarred from vesting full responsibility in the agent to whom it has delegated legislative power. Resort to special legislation is bound to follow adjudication of this character. It is certainly to be hoped that the New York Court of Appeals will follow the precedent laid down in the Illinois Central decision in 1910 by the Supreme Court of the United States.[1]

One abortive New York case has been urged as an example of the failure of governmental supervision of security issues. In reality, it emphasizes the necessity for doing this work in a thoroughgoing fashion. The old board of railroad commissioners in 1907 approved of a large issue of securities in 1907 by the Delaware & Eastern Railway, formed by consolidation of several smaller properties, three days before the effective date of the public service commission law. Litigation halted the proceedings, however; so that the proposed action was submitted for approval to the new board. It authorized the issue of about $6,500,000 of securities in 1909, an amount much less than requested but deemed sufficient to construct the proposed line. The order specifically reserved decision as to the use of the proceeds for other than actual construction, such as promotion, marketing securities, interest on construction, etc. The company thereupon widely advertised its

[1] *Ibid.*, p. 538.

bonds as "officially approved," while, as subsequent events divulged, utilizing the proceeds without regard to the restrictions of the order. In 1910, the company went into the hands of receivers; and upon investigation it appeared that an issue of over $1,000,000 of securities had been accompanied by less than $40,000 worth of actual construction. The promoter promptly disappeared for ever and aye. The commission, however, was debarred from legal action; inasmuch as the company's affairs were in the hands of Federal receivers, plans for reorganization were under way, and the principal offender was beyond recall. Constructive work was in consequence directed entirely to the re-financing of the project and a plan for final reorganization by which funds were to be secured solely from stock issues. Fixed charges, at all events, were not to be allowed to create trouble in future. The case is obviously not typical, for the commission's order in the first place was flatly disobeyed. Liabilities leading up to the failure had in fact been entered into before the creation of the new commission. No system of examination of accounts or prescription thereof had come into effect, nor had a definite policy as to capitalization been evolved. The experience emphasizes the need, nevertheless, of the avoidance by a commission of anything like the appearance of a guarantee of investments. Hazard is inseparable from all pioneer enterprises, for which the public must pay. All that a commission can do is to satisfy itself of the reasonable probability of a successful outcome. Regulative commissions stand between two fires. On the one hand, they cannot lawfully adopt so strict and narrow a policy as to throttle enterprise. On the other, they must not be so liberal as merely to "rubber stamp" promoters' schemes. In its inexperience this commission was possibly artless; but its subsequent record in scores of cases, of insistence upon conservative finance, fair returns to capital and adequate service to the public should extenuate the fault.

The experience of Massachusetts in seeking honest capitalization by law is significant in several respects.[1] It reveals the possibility of too great strictness in financial regulation, or rather, of misplaced strictness in focussing attention upon the issue price rather than upon the provision in proper ways of an adequate supply of capital for the needs of the service. It also emphasizes the need of elasticity in procedure — not governing, that is to say, through rigid statutory rules; but, after laying down the law in general terms, giving play for the exercise of discretion in its application. Yet, while defective for a time in these respects, no impartial student can deny that the effect of this Massachusetts legislation has on the whole been salutary. Had the New Haven system in its degenerate days before 1913 been subject, in fact, to as strict regulation under the laws of Connecticut as Massachusetts sought to impose, the disaster might never have occurred.

The best evidence of the soundness of this legislation at bottom is found in the statistics of capitalization of street railways. The steam roads are so largely interstate that comparisons are impossible. Connecticut until 1913 gave absolutely free rein to its trolley lines. Massachusetts held them in check. The average capitalization of street railways in Connecticut in 1912 was $115,810 per mile of line. The corresponding figure for Massachusetts, including the Boston Elevated system and its other costly city lines, was only $63,300 — approximately one-half the Connecticut figure.[2] In other words, taking Massachusetts as a standard, over-capitalization in Connecticut was about $52,500 per mile. Such evidence is conclusive as to the benefit of restriction. But the point may,

[1] The following references will be found serviceable: Ripley, Trusts, Pools and Corporations, 1909, pp. 121–148; C. J. Bullock, *Publications American Economic Association*, 3rd series, vol. X, 1909, pp. 384–429; *Quarterly Journal of Economics*, vol. XXII, 1908, p. 640. A good historical summary will be found in the Fall River Gas Co. case, 214 Mass., 529.

[2] *Railway Age Gazette*, vol. LII, 1912, p. 15–32. Ripley, Trusts, Pools and Corporations, p. 127, gives additional data for international and state and city comparisons in 1899.

nevertheless, be carried forward that it is possible to overdo a good thing.

The Massachusetts policy has been mainly concerned with fixing the issue price of capital stock, because of the circumstance that the New England roads have been so largely financed by this means. Bonds have played a relatively subordinate rôle. The aim has always been to limit the issue of securities to the *bona fide* investment of capital. The issue of stock merely as a bonus to promote the sale of bonds has never been tolerated. The lines of this legislation were for the most part laid down in the early days, when financing by subscription to share capital was everywhere the rule. Most of this stock, moreover, was sold in the beginning at a fair percentage of its face value. As a result, with the demonstrated success of the enterprise, stocks steadily rose above par, instead of merely approaching it, as has been the case in other parts of the country where share capital had at the outset no real worth. The main effort in Massachusetts, then, for many years, was to divide fairly the premium on new shares between the stockholders and the public. This task was imposed upon the railroad commission, which, while having only advisory powers in matters of rate-making since 1869, was given full authority in the sphere of regulation of the issue of securities. But a review of the experience seems to indicate too microscopic attention to the mere matter of issue price, to the neglect of the broader issues of financial policy, such as charges to depreciation, the relative proportion of stocks and bonds, and the insistent demands for new investment in plant for the sake of the service.

The cardinal principle at law in Massachusetts has been to require that no securities of public service companies should be issued except for cash and at not less than par value.[1] The wisdom of the general plan is almost universally recognized; but the practical means of attaining the desired end

[1] *Cf.* chapter XI, *infra,* as to valuation for rate-making.

without unduly hampering enterprise, have varied from time to time. The first plan, before 1871, was to prohibit all issues of stock except at par. This was manifestly unfair both to the corporation and to the public. It often deprived the former of whatever premium the stock would command at public sale; and it sometimes permitted distribution of an accumulated surplus by means of excessively valuable subscription rights. The second plan, in effect from 1871 to 1878, was to require that all new shares should be sold at public auction.[1] This was perhaps borrowed from the long-standing English custom of "auction clauses," requiring gas companies to put forth their securities in this way. But this violated the traditional rights of stockholders to preference in all such transactions. Furthermore, it opened the way to contests for control between rival interests, which violently disturbed market prices. At this point, in 1893, came the illuminating experience with the Connecticut River road, elsewhere set forth.[2] This led to the anti-stock-watering law of 1894, prohibiting the issue of share capital at other than the market value, this value to be ascertained by the railroad commission.

The Massachusetts law of 1894 undoubtedly restrained the issue of watered stock. Shares were issued under it in some cases at premiums as high as $90. The Boston & Maine road put forth new shares at different times at $190 and at $165 in cash. Street railways to 1908 applied 207 times for increases of capital. In 54 instances a premium was prescribed; in 153 the emission was at par. The plan worked well as long as investors were in optimistic mood. And it happened that throughout the following decade, to 1903, the trend of market prices was steadily and sometimes strikingly upward. In

[1] Whitten, Regulation of Public Service Companies in Great Britain, 1914, chap. III. As early as 1877 the railroad commission applied the principle "although with considerable hesitation" that capitalization should not exceed the value of the tangible assets minus the liabilities. (Reports, 1877, p. 127.)

[2] P. 229, *supra*.

consequence, shareholders almost immediately realized profits from subscriptions even at these high prices. To be sure, a very difficult task was imposed upon the railroad commission — that of determining in advance what the price would be after the new issue had been made. It was largely a matter of guesswork; and instances occurred in which "rights" were transferred into losses. Moreover, as was urged by the companies affected, this process of emitting shares at various prices introduced great inequalities as between different shareholders, in respect of the rate of return upon their investment. To the stockholder who subscribed at $190 per share, dividends at the rate of 8 per cent. obviously yielded only about one-half the rate of return which accrued to the old subscribers at par. In the determination of the reasonableness of general rate schedules, it was held this would greatly embarrass both the legislature and the courts. Other details of this legislation were found to work hardship in practice; such as the limitation of bonded debt to the par value of the share capital (which still left the door open to the creation of heavy current liabilities), and the prohibition of stock issues to cover promotion expenses or to provide working capital. With the panic of 1903, the unduly drastic character of the law became plainly apparent. Funds for development could scarcely be raised at all. One important company was obliged to borrow on its short-time notes at 8 per cent., because of inability to market its stock at the high premium fixed by the railroad commission. Nor could it issue bonds, because of the limitation of indebtedness to the outstanding share capital.[1]

Conceding fully the desirability of sharing between the public and the corporation the benefits of a premium upon the issue of new stock, a special commission recommended a

[1] Increased to double the capital stock in 1913 as the price of permitting the creation of a new public service commission, as seen below. By new legislation in 1909, capitalization for working expenses was allowed; and the Boston Elevated issued $1,000,000 bonds for the purpose in 1914. A bill is now pending to permit capitalization of replacement outlay.

more liberal policy. Limitation of the rate of return upon investment to what was practically a savings-bank rate, had dried up the sources of capital for improvement. The new law of 1908 amended the system, by permitting new shares to be offered for subscription at a price, not less than par, to be determined by the stockholders subject to the approval of the railroad commission.[1] The control of the state was still supreme; but an opportunity was offered for such liberality on the part of corporations and their shareholders as should insure the success of their issues. Premiums of $25 per share, carrying rights worth as high as $5, were soon allowed.

The objection to this more liberal policy, vehemently urged, was that in times of abounding prosperity, stockholders might be tempted to fix prices of emission so low as practically to entail stock-watering. But the reservation of power to disapprove of these terms appeared to be a sufficient safeguard.[2] It was generally recognized as a result of this varied experience that both public and shareholders had rights which must be respected. Complete freedom of issue leads to inflation. Too drastic restriction dries up the springs of capital upon which the public must depend for future development. A wise course lies intermediate between the two. The decline and fall of the New England railroads in 1912–1914 has stood in the way of any decisive test of the latest principle adopted. And the entire reorganization of the old railroad board, in 1913, creating a new public service commission, has brought both powers and procedure more nearly into line with the practice of New York and the other American states.[3] The old advisory

[1] The liberalization of the general corporation law at the same time is discussed in *Quarterly Journal of Economics*, vol. XVIII, pp. 269–280; reprinted in Trusts, Pools and Corporations, pp. 382–392.

[2] The law was construed in the Fortieth Annual Report of the Board of Railroad Commissioners of Massachusetts, p. 155, as follows: "The phrase 'so low as to be inconsistent with the public interest,' undoubtedly difficult of exact definition, must, in connection with the legislative act of 1908, be taken to mean in any specific case an issue price materially lower than a price which would assure a ready market for the issue."

[3] *Quarterly Journal of Economics*, vol. XXVII, 1913, p. 699.

railroad commission of 1869 was transformed, after forty-four years, into the present administrative board, which differs little from that of New York. This legislation, however, afforded a most disquieting evidence of the power of a railroad lobby. Despite the incisive campaign waged by Governor Foss for three years, the New Haven Railroad demanded and, as the price of its consent, received a clause enabling railroads to issue long-time securities up to *twice* the amount of their outstanding capital stock. This iniquitous provision runs counter to all the dictates of business prudence. What will happen as a result remains to be seen.[1] At the same time, in the matter of rates, mandatory rather than recommendatory powers were in general conferred.

The regulation of railroad capitalization in Texas under its so-called Stock and Bond law of 1893 is instructive, especially when taken in connection with the experience of Massachusetts, just described.[2] Both states strictly forbade the issue of new securities without approval by public authority. But the motives, as reflecting differences in the local situations, were strikingly contrasted. Texas was mainly interested in the regulation of rates at the start. Massachusetts had an eye to the welfare of investors. But both alike since that time, as we shall soon see, soon came to recognize that the main consideration in regulating security issues was to safeguard the character of the service. Texas, then an undeveloped country, was newly berailroaded by companies heavily over-capitalized as a result of optimistic promotion. In Massachusetts, on the other hand, the stock-watering operators were, so to speak, "accessories after the fact." New England roads had originally been most conservatively built. Few, if any, bonds had been

[1] *Cf.* p. 307, *infra.*

[2] The best references from opposing points of view are as follows: *Texas Academy of Science*, Presidential Address, 1902; *Quarterly Journal of Economics*, vol. XXII, 1907, pp. 109–119; *Bull. University of Texas*, no. 236, 1912, pp. 83–120.

issued. Stock had been paid for in full at par. The threat of an overload of securities, as compared with the growth of earnings, appeared late in the life of the companies.[1] In this densely populated territory the increment in land valuations, and especially of terminals, had probably brought assets to more than an equality with the volume of securities outstanding. But it had become evident that without restraint stock-watering in future might take place, in order to provide a broader basis for distribution of increased earnings. Texas, on the other hand, was endeavoring to "squeeze the water" from its roads, already heavily over-capitalized in connection with construction. In other words, Massachusetts was applying a close-fitting strait-jacket to full-grown corporations in order to prevent future violence; while Texas sought to withhold youthful and bumptious companies from making engagements for the future, until they had grown to the measure of the financial garments already on their backs. But whatever the motive in either case, the Texas experience confirms that of Massachusetts in the demonstration that it is possible to overdo a good thing; to be too rigid and strict in pursuance of a normally laudable policy; and that not all the mistakes of two generations past can be corrected in the twinkling of an eye by means of a statute.

The Texas Stock and Bond law of 1893 declares that the power and authority of issuing or executing bonds or other evidences of debt and all kinds of stock and shares are special privileges and franchises; and that the right of supervision and control is vested in the state. It is specifically provided that "no bonds or other indebtedness shall be increased or issued . . . over or above the reasonable value of said railroad property"; although in case of emergency, bonds and stocks may be executed to an amount not more than 50 per cent. over the value of the property. Under this Texas law, therefore, it is evident not only that all bonds must be authorized

[1] P. 298, *supra*.

and approved, but that they must be actually registered. No further issues may take place until all previous over-capitalization has been expunged. Such obliteration may take place either by reinvestment of earnings in the property, or else through gradual appreciation of assets due to the growth of the country. It would appear as if valuation being based upon the cost of reproduction, land might be inventoried at present or prevailing prices. This the railroad commission refuses to allow. Whether this is sound law or not has not yet been put to the test. In the administration of this statute, a sharp distinction is made between those properties constructed and capitalized before the passage of the law, and the new roads built since that time. For all new construction of independent roads, the commission applies an arbitrary scale of costs which seems to be sufficiently liberal to allow for promoters' profits, seasoning of the property, and even a certain value for the franchise. But great hardship has arisen in the application of the law, either to old roads or to extensions and improvements attempted by these older properties. So evident did it become that an entirely different mode of treatment was necessary for the two classes of railroads, that the law was amended in 1901 so as to permit the separate and independent capitalization of extensions, regardless of the over-capitalization of the main stem.

The prime result contemplated by the Texas authorities being to impose a check upon over-capitalization, it is beyond question that this has been attained. How rigid the limitations were, may be instanced by the case of the Houston & Texas Central. Between 1892 and 1906 the length of this road expanded from 507 to 694 miles, while the total capitalization was actually reduced by about $1,000,000; that is to say, the average stocks and bonds per mile of line dropped from $50,900 to $35,700. Similar results followed all over the state. Between 1894 and 1906 the railway mileage in Texas increased by about one-fourth, to a total of 12,058 miles. The stocks

and bonds outstanding per mile of line during these thirteen years dropped from $40,802 to $31,530. This result, so ardently desired by the advocates of the law was, it must be said, somewhat nullified during the last ten years of the period in question by an increase of floating debt from $30,300,000 to $76,500,000. The ominous significance of this growth of current liabilities lay in the fact of the commission's flat refusal to permit it to be refunded. This is obviously the logical application of the law, namely, not even to permit the increased valuation of the property due to improvements of any sort to be paid for by new securities, until the outstanding capitalization has been brought down to the limits of the actual investment. The situation is paradoxical enough, with railroad properties continually increasing in worth and earning capacity, but accompanied by a steady decline both in the volume and, it may be added, the market prices of their shares.

One effect of the restrictive Texas law has, then, undoubtedly been to penalize improvements and betterment. Considerable new construction, as we have seen, has taken place; but, on the other hand, the speculative or even the dishonest promoter has by no means been eliminated. The recent "Frisco" scandals were largely concerned with the over-capitalization of Texas branch lines. The most serious result, however, is the discouragement of improvements; such as the substitution of heavy rails for light, the replacement of wooden structures with steel, the reduction of grades, better stations, etc. The policy of the railroad commission has been somewhat relaxed since 1907 in case of equipment security issues. And, as above mentioned, the independent capitalization of extensions is permitted. But a heavy hand still rests upon all bond issues for betterment of the existing lines of the older companies. The fact seems to be ignored that a close inter-relation obtains between the amount of the investment and current operating cost.[1] Consequently, in the absence of large addi-

[1] Ripley, Railroads: Rates and Regulation, p. 66.

tions to plant, the level of operating expenses stands so high that little or no net earnings remain. In 1906, twenty-three of the fifty-five railroads in Texas reported a deficit.[1] Under such circumstances whatever new capital for improvements was imperatively demanded, has had to be raised by the use of collateral trust bonds, issued upon their own superior credit by parent railroads outside the state, although secured by the assets of Texas lines.[2]

The conclusion is unavoidable that people resident in other states have furnished Texas with transportation for which it does not pay. The antiquated physical valuations used as a standard for capitalization also fail to recognize the degree to which the growth of the country has tended in itself to bring the volume of securities outstanding into accord with the present worth of the investment. Physical valuations as a consequence stand far below the assessments for purposes of taxation.[3] It appears that the development of the country has already automatically "squeezed" much of the water out of its railroad capitalization; and that economic conditions are now ripe for the inauguration of a more liberal policy in future.[4]

The Texas law seems to demand amendment in such a

[1] *Railway Age Gazette*, 1903, p. 106; and especially 1913, p. 1151, "Hearings before the Texas Welfare Commission."

[2] U. S. Railroad Securities Commission, p. 30. The Pecos Valley branch of the Santa Fé system is partly in Texas, partly in New Mexico. The Interstate Commerce Commission found the former capitalized at $8,000 per mile, the latter at $42,000, with no difference in actual cost. 12 I. C. C. Rep. 345.

[3] Bull. Bureau of Railway Economics, 1911, on Physical Valuation discusses these antiquated inventory values.

[4] The Texas Welfare Commission of 1912 made the following recommendations:

1. That all bonds or other such obligations lawfully issued and sold may be refunded regardless of any valuation fixed by the railroad commission.

2. That bonds may be issued for betterments, improvements or extensions, regardless of any valuation theretofore fixed by the railroad commission.

3. That the process for issuing bonds be changed so as to authorize the issuance and sales of such securities as the money is required, either

manner as to release the railroad commission from the arbitrary and exacting mathematical requirements of the statute; and to permit it, like the New York commissions, to exercise a reasonable discretion in authorizing railroads to issue securities for all legitimate purposes. It seems probable, also, that the law is theoretically defective in seeking to prevent all stock-watering in connection with new construction. This point is indeed indirectly conceded, as we have already seen, by the liberal way in which construction costs are measured. Texas, above all things, stands in need of transportation development, by reason of its vast area. The discouragement to prospective investors is almost abject. It is certain that not only the issue of bonds at a discount, but even a resort to stock bonuses, in order to promote the sale of bonds, may at times be necessary in order to procure an adequate supply of new capital under the risks attendant upon pioneering.[1] But, whatever one may think about stock-watering as a necessary concomitant of construction, the Texas experience clearly demonstrates that a drastic attempt within a brief period to correct all the excesses of the past,[2] may so completely discourage enterprise in the present as to militate against the public interest.

The regulation of capitalization by other states than those already described has been too brief to call for extended comment. Wisconsin has in a measure manifested an interest in this aspect of affairs since 1907; but, so far as railroads are concerned, the supervision of security issues is quite perfunctory.

before, during or after construction, instead of only after construction, as is now the case, but providing for strict application of the proceeds to the purposes for which authorized.

4. That the sale of bonds by new railroads be authorized providing safeguards insuring the proper application of the proceeds.

[1] *Cf.* Commissioners Meyer and Knapp, Hearings on Rate Increases vol. III, 1910, p. 2513.

[2] *Cf.* p. 291, *supra,* on the attempt in reorganization proceedings in New York and Nebraska to scale down excessive past issues by prohibiting an exchange par for par.

The first law merely called for the filing of data, after which the commission was required to certify the issue. But the law was amended in 1911 by providing that stocks or bonds should be limited to the amounts reasonably necessary for the purposes stated. Authority was conferred upon the commission to determine whether these purposes were lawful and whether the amount was, in fact, reasonable. But no occasion has yet arisen calling for a formal decision or opinion. This is somewhat extraordinary, in view of the fact that the total number of stock and bond authorizations for all classes of public service companies for the six years since 1907 amounts to 670 — an average of about 100 cases a year.

The record of the recently created New Jersey commission is more positive. A number of suggestive principles have already been laid down in the course of two years' experience. Thus it was held in a case of over-capitalization as a result of merger, whereby practically half of the securities outstanding were based upon "anticipation rather than solid assets," that the company could not set up its capitalization or its contracts as a bar to the state's exercise of power over rates.[1] Offerings of securities, as in New York, must be publicly made in order to afford an opportunity for the company to realize the best possible price.[2] Equipment trust bonds may not be sold at favorable prices based upon their high standing as "purchase-money mortgages," unless, as a matter of fact, new equipment is really acquired by this means.[3] Mortgage indebtedness aggregating possibly three times the capital stock departs so radically from the old-established principle that loans ought not to exceed assets, that the New York Central refunding mortgages in 1913 were disapproved as to property within the

[1] Public Service Gas Company, December 26, 1912. Affirmed by the New Jersey Supreme Court, June, 1913. "The ultimate question is a question of business and the results cannot be predicted. In such a case the commissioners ought to move with caution. We think in this case they have done so."

[2] North Hudson County Railway case, Dec. 5, 1913.

[3] Public Service Railway Company, Mar. 3, 1914.

state of New Jersey.[1] On the other hand, the fundamental principle is clearly enunciated that regulation implies protection against competition as a necessary corollary. It is against the public interest to permit two monopolies, both subject to regulation, to invade one another's territory.[2] The record of this New Jersey commission, although short, seems likely to entitle it to a commanding position among administrative boards of this type in the United States.[3]

A few additional cases from other parts of the country indicate certain significant tendencies. The contrast in attitude toward construction between the well-settled East and the undeveloped territory in the West is striking. The general need of transportation facilities in the latter case renders it particularly difficult to resist the temptation to admit new-comers regardless of consequences. In other words, the settled policy in the East of recognizing and protecting transportation as a local monopoly is far less rigidly applied. Thus in Nebraska,[4] although the commission by constitutional amendment may disapprove of competition, invasion of already occupied territory is not forbidden, on the ground that it "involves such grave responsibility that the commission will not exercise it unless specifically directed so to do by the legislature."

In California such competition in invading virgin territory was obviated by the device applied to the Northwestern Pacific Railroad of an equally divided ownership of stock between the Atchison and the Southern Pacific.[5] But, it appearing that

[1] Decision, Dec. 19, 1913.

[2] New Jersey Power Company, decided January 27, 1914. Well expressed for New York in the repeated refusal by the up-state commission to permit the financing of trolley lines paralleling the New York Central from Buffalo to the Hudson River. 3 P. S. C., 2nd D. (N. Y.), 1913, 55.

Marked liberality in treatment is also manifested in the allowance of capitalization of expenses of development. This is unique. *Cf.* P. S. C. (N. Y.), 1912, 246, allowing 30 per cent. of the capitalization for the special value of "plant with a business attached."

[3] On stock dividend policy in New Jersey, *vide Electric Railway Journal*, Oct. 10, 1914, p. 725.

[4] Railway Commission, Sixth Ann. Rep., 1913, p. 255.

[5] Railroad Commission, 1914, decision no. 1428.

$35,000,000 of stock at par was carried on the books of these companies at only $7,600,000, a physical valuation of the property was demanded as a prerequisite for further bond issues. There is no evidence, however, of a disposition to imitate the rigorous Texas plan of expunging this watered stock before permitting further issues for construction. A more positive restraint in another California case is manifest.[1] A railway petitioned for $15,000,000 at par of bonds to complete construction. The road was evidently needed; but, in view of the stated evil of over-issue of bonds, authority was granted to substitute for the above-mentioned issue, $10,000,000 in bonds and $3,000,000 in stock at par instead. This attempt to maintain a due relation between capital stock and indebtedness recalls the above-mentioned Nebraska case which permitted a similar over-weight of bonds, but only on the ground that no other financial plan was feasible.[2]

Another recent case, in Missouri,[3] affords an interesting example of all of the abuses of construction company finance of the classical sort. Frank disapproval of these practices was, however, coupled with the submission of a well-ordered plan by which the road might be honestly built. The powers and intelligence of the Michigan commission are now on trial in disentangling the involved finances of the Père Marquette road. Refusal by this body to allow issue of short-term notes against a deposit of bonds as collateral on such terms as to create a much greater liability than the loan represented, precipitated a receivership.

The course of events in recent years, despite the activity of

[1] Railroad Commission, 1914, decision no. 1264.

[2] *Cf.* the New Jersey disapproval, heretofore cited, of the New York Central bonds; and, on the other hand, the amendment of Massachusetts law in 1913 permitting bonds to thrice the amount of capital stock, instead of twice as formerly.

[3] P. S. C. (1913), 141. The prohibition of any loans by the construction company based upon deposit of the railroad stock, until the property is actually created, closes the door to such abuses as occurred in the Hampden case in Massachusetts. *Railway Age Gazette*, vol. LVI, 1914, p. 1180.

the several states in regulating capitalization, has emphasized the need of legislation in this field by the Federal government. Several bills are now before Congress upon the subject. This Federal interest in capitalization has in part arisen from the ever-increasing complexity of inter-corporate relation. Few railroads now confine their activity within the boundaries of a single state. The several scandals incident to the late collapse of the New Haven, the Rock Island, and the "Frisco" systems, each of them widely interstate in character, have demonstrated the need of Federal interference. From the railroad point of view, also, the desirability of an enlargement of the scope of authority of the Interstate Commerce Commission has been established through the well-nigh intolerable conflict of authority of the many public service commissions and state courts now at work in this field.[1] No fewer than six different state commissions are said to be taking a hand in the pending reorganization of the Wabash. The approval of each is necessary for validation of the plans, and it is impossible to obey so many masters. It is also daily becoming more clear that the conflict of state and Federal authority in the regulation of rates can be averted only by the assumption of unified financial control by the United States.[2] Rates, service and finance are so completely interlocked that satisfactory regulation in each field cannot be exercised except by the assumption of full authority over all three domains alike.

The foregoing recital of the causes of Federal interest in control of capitalization seems to dispose summarily of the recommendations of the Railroad Securities Commission of 1910 in favor of a conservative policy of mere publicity. It would appear as if, in order to relieve the carriers from the

[1] *Cf.* the conflict of laws in the New Haven case in 1908 respecting validation of securities in Massachusetts of a corporation chartered in Connecticut (198 Mass., 413). The Validation Act of 1910 was a necessary consequence. But the U. S. Supreme Court decision in the Shreveport case, just rendered, considerably clarifies the situation.

[2] Ripley, Railroads: Rates and Regulation, chap. XX.

conflicting and sometimes harassing exercise of power by the different state boards, the only course would be to confer equally broad powers upon the Interstate Commerce Commission. Otherwise the state commissions might not be retired from the field. This, likewise, is the principal objection to a plan of control intermediate between mere publicity and strict regulation.[1] The prevention of the issuance of securities for improper purposes, and of immoral profits to insiders, as well as a guarantee that all moneys raised shall be rightly expended for the public good, might conceivably be brought about through a greater concentration of responsibility upon directors. They might be required, for example, to subscribe to a full and sworn statement on the corporate minutes as to these details and thereafter be made criminally liable at law. Did not the state commissions, endowed with much broader discretionary authority over the issuance of securities, already exist, this plan might have much to recommend it. At all events it would do away with such dummy directors as were used by the Mellen administration of the New Haven road in the cases of the Billard Company and other subsidiary corporations.[2]

But these state commissions can hardly be expected or required to withdraw from the field unless an equal measure of authority is conferred by Congress upon the Interstate Commerce Commission.[3] The advantages of singleness of purpose and uniformity of treatment certainly attach to such assumption by the United States of the present functions of the different commonwealths. Evasion of control, now so

[1] *Railway Age Gazette,* vol. LVI, 1914, p. 62. Embodied in H. R. 13,454 presented by Mr. Esch of Wisconsin. It provides for the issuance of a certificate of notification. A bill for positive regulation is embodied in H. R. 12,584.

[2] Investigation by the Interstate Commerce Commission in May, 1914, to be embodied in a report to the Senate.

[3] The remedy of an interchange of views between Federal and state boards as a means of securing harmony, illustrated in respect of safety appliances and standardization of accounts, fails at this point.

prevalent under the present system of divided responsibility, would be brought to an end. And, finally, it now appears that the objection brought forward by the Federal Securities Commission, — that public opinion would not support the assertion of exclusive Federal jurisdiction, — no longer holds good. At the same time, the problems of financial control are so distinct from those of rate regulation, that the administrative subdivision of work should be kept distinct. Either a separate set of commissioners or a departmental organization, as in the state bureaus, would be necessary in order to distribute the burden and to promote efficiency. Whether at the same time Federal incorporation is desirable would seem to be more problematical.[1] But it is clear that the time has now arrived when certainty and simplification of control in the interest of all parties concerned can be secured in no other way.

[1] Railroad Securities Commission, p. 25.

CHAPTER X

THE DETERMINATION OF REASONABLE RATES

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THE evolution of the principles governing the reasonableness of rates for public service in the Federal courts has been slow but sure.[1] Judicial determination of these principles has also logically and of necessity been accompanied by a progressive insistence upon physical valuation. An outline of this interpretation is essential at this point in our inquiry. The review must, however, be confined to the decisions of the Supreme Court of the United States; although many suggestive details might be gleaned from other legal sources. The chroni-

[1] Authorities are as follows: Beale and Wyman, The Law of Railroad Rate Regulation (Collected cases), 1906; B. Wyman, Public Service Corporations, 2 vols., 1911; H. S. Smalley, Railroad Rate Control, *Publications of the American Economic Association*, 3rd ser., vol. VII, 1906, pp. 83–110, reprinted in Ripley, Railway Problems (rev. ed.), pp. 619–641; Clark, *Columbia University Studies in Economics*, etc., 1910; A. C. Bailly, *Columbia Law Review*, June and November, 1911, p. 44; F. J. Swayze, *Quarterly Journal of Economics*, 1912, pp. 389–424, reprinted in Ripley, Railway Problems (rev. ed.), pp. 716–744 (one of the best); R. H. Whitten, Valuation of Public Service Corporations, 1912, p. 798 (Standard work); H. V. Hayes, Public Utilities, 1913; R. P. Reeder, Validity of Rate Regulation, 1914.

cle begins with the Granger cases in 1876,[1] a first chapter concluding in 1898 with the Nebraska Maximum Rate decision.

The leading issue during this first interval of twenty-two years was, logically, the establishment of the right of the people to rule through the agency of their legislative bodies. No suggestion of intervention by the courts for the protection of private property rights was offered at all until 1884.[2] But two years later, while still holding that the state was free to fix rates within the limits of its general authority, the previously suggested modification of unlimited legislative power was amplified into clear affirmation that the power to regulate "is not a power to destroy, and limitation is not the equivalent of confiscation. . . . The state cannot require a railroad corporation to carry persons or property without reward; neither can it do that which in law amounts to a taking of private property for public use without just compensation, or without due process of law."[3] In 1890 the pendulum swung even farther over to the side of judicial intervention, in an opinion which seemed practically to overrule the Granger decisions.[4] Administrative commissions, it was declared, could not be regarded as clothed with judicial functions at all. This ill-balanced decision promised for a time to undo all the constructive work of years. Carried to its logical conclusion, as Justice Swayze says,[5] it would substitute the courts for commissions as final arbiters; and in effect would throw the whole burden of rate-making upon the judicial machinery. The vigorous dissenting opinion in this case lays bare the very roots of the subject. The point raised was fundamental. The query in the Granger cases was: "Is the rate so unreasonable as to be arbitrary and amount to confiscation of property

[1] 94 U. S., 113.

[2] *Spring Valley Water Works*, etc., 110 U. S., 347.

[3] Railroad Commission cases, 116 U. S., 307. On "due process of law," the Minnesota Rate cases, four years later, contained further definition.

[4] Minnesota Rate cases, 134 U. S., 418 and 466.

[5] Ripley, Railway Problems (rev. ed.), p. 719.

rather than mere regulation of a rate?" These Minnesota Rate cases inquired: "Is the rate a reasonable one, and such as would afford the same profit as could be realized *by one not subject to regulation?*" (Our italics.) Had the people the right to regulate rates, as declared in the Granger cases, then the property of the railroads was surely qualified by that public right;[1] and no deprivation of such qualified property right could occur, so long as the legislature confined itself within the limits of fair regulation, stopping short of confiscation. It is this minority opinion which has finally prevailed;[2] but the temporary set-back of the Minnesota Rate cases certainly appeared threatening for a time.

One of a series of efforts to throw the protection of the courts around the carriers, growing out of the preceding decision interpreting the Fourteenth Amendment, brought forth the Texas Railroad Commission opinion of 1894.[3] The rates of a state railroad board were for the first time successfully enjoined in a body. And, on the whole, the position as to the predominance of the judiciary over the legislature was maintained. Two other decisions within the next two years dealt with details of the subject and are of minor importance. One[4] concerned the apportionment of earnings as between divisions of a railroad and arbitrary state lines. The other[5] is of a different interest, as will shortly appear. Summarizing the results up to the middle of the '90s, then, it appears that they were two-fold, so far as general principles are concerned. A definite alignment of the Fourteenth Amendment down the field had been made, with private property rights on the one side and public powers of control on the other. And, in the second place, the earlier supremacy of legislatures and commissions

[1] The Kansas City Stockyards case, 183 U. S., 79, delves further into this point.
[2] 206 U. S., 1.
[3] *Reagan* v. *Farmers' Loan & Trust Co.*, 154 U. S., 362.
[4] *St. Louis & San Francisco Railway* v. *Gill*, 156 U. S., 649.
[5] *Covington, etc., Turnpike Co.* v. *Sandford*, 164 U. S., 578.

had been duly, or as since held, unduly, tempered by judicial review.[1] But although the major burden of the determination of reasonableness had come to rest upon the courts, little was as yet accomplished in respect of a clear definition of the economic bases upon which their judgments were to be founded.

No satisfactory standards for the accurate measurement of property rights are propounded in this first group of Supreme Court decisions down to 1898. In this regard they are hesitant and inconclusive, evidently groping in the dark for something, they know not what. Thus in 1888: "Without any proof of the sum invested . . . *the court has no means*, if it would under any circumstances have the power, *of determining that the rate of three cents a mile, fixed by the legislature, is unreasonable*."[2] (Our italics.) Or in the Covington Turnpike case, eight years later[3]: "These allegations were sufficiently full as to the facts necessary to be pleaded, and fairly raised for judicial determination the question — *assuming the facts stated to be true* — whether the act of 1890 was in derogation of the company's constitutional rights." (Our italics.) Evidently something was needed in the way of positive data. And even when the honorable justices ventured forth into economic analysis, their pronouncements were unsatisfactory and conflicting. For the opinion in the first of these just-cited cases seems to rest upon original, that is to say, actual investment; that of the second, upon the effect of reduced tolls upon dividends on the par value of capital stock.[4] Newer and more fertile soil was broken in the Texas Railroad Commission case, however. Evident inadequacy of the rates to yield a fair

[1] Later developments in Ripley, Railroads: Rates and Regulation, pp. 503–593.

[2] *Dow* v. *Biedelman*, 125 U. S., 680.

[3] 164 U. S., 578.

[4] *Cf.* 35 Fed. Rep., 866, as to the effect of rates upon interest on bonds; and the disavowal in the Minnesota Rate cases of 1913, and Wyman, Public Service Corporations, vol. II, p. 976.

return upon the investment, — the time, be it noted, being midway of the depression of 1893–'97, — was admitted. The figures were most general, and yet the court declared that the facts so supported by the averments in the bill, "*in the absence of any satisfactory showing to the contrary,* sustain a finding that the proposed tariff is unjust and unreasonable." (Our italics.) The decision continued:

> "Is there anything which detracts from the force of the general allegation that these rates are unjust and unreasonable? This clearly appears. *The cost of this railroad property was $40,000,000; it cannot be replaced today for less than $25,000,000.* There are $15,000,000 of mortgage bonds outstanding against it, and nearly $10,000,000 of stock. These bonds and stock represent money invested in the construction of this road. The owners of the stock have never received a dollar's worth of dividends in return for their investment. The road was thrown into the hands of a receiver for default in payment of the interest on the bonds. . . .
>
> "It is unnecessary to decide, and we do not wish to be understood as laying down as an absolute rule, that in every case a failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable. . . . There may be circumstances which would justify such a tariff; there may have been extravagance and needless expenditure of money; there may be waste in the management of the road; enormous salaries; unjust discrimination as between individual shippers, resulting in general loss. The construction may have been at a time when material and labor were at the highest price, *so that the actual cost far exceeds the present value;* the road may have been unwisely built, in localities where there is no sufficient business to sustain a road. Doubtless, too, there are many other matters affecting the rights of the community in which the road is built as well as the rights of those who have built the road." (Our italics.)

Is not this opinion indecisive enough as respects economic standards or principles? Original cost, replacement value and even present worth are all alike suggested as the proper measure for reasonableness; while Justice Brewer even hints at a fourth possible basis of value "as it stood in the markets of the world." Here is a most inviting display of wares; about all we have, even today, in this particular line. But no choice is indicated;

nor, in all probability, could one be made owing to the paucity of data.

The Nebraska Maximum Rate decision of 1898[1] affords the first authoritative pronouncement upon the economic bases for the determination of rate reasonableness. It is a landmark in the development of public regulation. Real analysis on the economic side is for the first time had. Expert evidence as to value supersedes merely general admissions or allegations of the parties at law. The constitutionality of a Nebraska statute establishing maximum freight rates was in question. The state contended that so long as the rate fixed by law yielded operating expenses, under economical administration, with something in addition thereto, the power of the court to intervene was at an end; in other words, that the fixation of the exact amount of profit was a question not suitable for judicial action but was rather a matter of political policy. According to this view, the property right in a railroad consisted in its title and possessions, the privilege to operate with efficiency, and the further right to such additional compensation, however small, as the people chose to grant. The carriers, on the other hand, stood out for such ample revenues as should meet all fixed charges over and above operating expenses and dividends upon their entire capitalization, regardless of its character, fictitious or real. Between these two extremes ran the decision of the court. A definition of property and its right to a reasonable return was in order.

"The corporation may not be required to use its property for the benefit of the public without receiving just compensation for the services rendered by it. How such compensation may be ascertained, and what are the necessary elements in such inquiry, will always be an embarrassing question. . . . We hold, however, that *the basis of all calculations as to the reasonableness of rates . . . must be the fair value of the property being used by it for the convenience of the public.* And in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market

[1] *Smythe* v. *Ames*, 169 U. S., 466.

value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. *What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience.* On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth." (Our italics.)

This ample list of all possible standards of value is indeed imposing; but, after all, matters in detail were still left about as much in the air as before. Besides failing to make selection from among these numerous standards of reasonableness, sanctuary was sought in the broad generalization of "fair value." The Nebraska Maximum Rate decision was also unclear as to the fine distinction between value of property in use and that of services rendered. The former would measure rates by the undivided value of the plant; the latter necessitated consideration only of particular items. It is the old distinction between cost of service and value of service.[1] As between these two, the court chose the fair value of the property as above indicated. But, with these reservations the opinion marks a distinct advance in legal education. It was a great decision, probably as well reasoned as the then state of economic investigation would warrant.

For about six years, following the Nebraska Maximum Rate decision, little advance in economic reasoning on the subject of valuation by the Supreme Court seems to have taken place. Other judges, big and little, Federal and state, were, to be sure, profoundly influenced by the phrase "fair value"; but one is still left in doubt as to what the term really meant. Nevertheless, a distinct improvement in practice was the taking of detailed evidence as to the economic facts

[1] More clearly stated in the Kansas City Stock Yards case, p. 47; as also p. 325, *infra*.

by masters in chancery. The first San Diego Land Co. decision of 1899,[1] while again sufficiently broad in its inclusion of all possible elements of value, gives adherence to no well-defined standard. Present worth seems to be indicated in entitling the company to demand "a fair return upon the reasonable value of the property at the time it is being used for the public"; this, as it appears, "as against the actual cost of the plant, annual depreciation, etc.," on the ground of improper and injudicious inflation of the property account over a term of years. Still, therefore, do we hang mid-air, swinging toward replacement cost, regardless of the amount of the original or actual investment!

Accelerated progress along lines of economic reasoning is discernible in decisions of the Federal courts only since 1904. Legal pronouncements are more commonly buttressed by positive statistical and accounting data. Euphonious generalizations, using Smalley's phrase, give place to more business-like construction. The starting point, carried over from the earlier cases, remains unchanged. The mainstay is still present-day replacement cost, not original or actual investment.[2] But, after the lapse of four years, new elements are discerned in the second San Diego Land Company opinion. The plant is larger than the requirements of the community warrant; perhaps, even, the investment has been injudicious and excessive. Need patrons today pay carrying charges for the benefit of their remote descendants? Not so! Fair returns may be reckoned only upon an investment "reasonably necessary for the existing public service." The qualifications introduced in the next decision[3] are evidently concomitants of progress in the science of accounting and physical valuation. The Knoxville Water case in 1909,[4] recognized the elements of decrepitude and depreciation — an old plant obviously worth

[1] 174 U. S., 739.
[2] 189 U. S., 439.
[3] Omitting San Joaquin Irrigation Company, etc., 192 U. S., 201, as touching other points.
[4] 212 U. S., 1.

less than a new one; of going value — a live plant worth more than a dead one; of over-capitalization; of organization, promotion and experimentation outlays; and of general betterment policy. Sound business practice was demanded by the court as a prerequisite for the acceptance of valuation data.[1]

About this time, also, was handed down the leading opinion in the New York Consolidated Gas Company case.[2] So many-sided that we shall refer to it in several other connections, its interest for the moment lies in an advance in the definition of intangible values. An important feature was the inclusion of replacement cost of real estate, greatly enhanced in value through the growth of the community. There was no departure from the standing rule of law permitting property owners to benefit by increments in land value. Actual investment was still subordinate as a standard of valuation. In the definition of franchise value as distinct from good-will; and in the treatment of intangibles, in general, some contribution was made to theory. As a practical matter of valuation in dollars and cents, however, the court expressly disavowed responsibility for establishing precedents. The disallowance of good-will and franchise value has since been confirmed in a subsequent opinion.[3] Further qualification of intangible values incident to the possession of a monopoly may be anticipated in future. It is certainly needed.

The Minnesota Rate cases of 1913,[4] are notable by reason

[1] Whether certain newer conceptions of depreciation are sufficiently weighty to permit the substitution of present value, that is to say of depreciated value, for straight reproduction cost, new, remains to be seen. *Cf.* p. 356, *infra.*

[2] Willcox, etc., 212 U. S., 19. (1909.)

[3] Cedar Rapids Gas, etc., 223 U. S., 655 (1912). *Cf.* p. 361, *infra.* The opinion of Justice Swayze of New Jersey in the Public Service Gas Co. case, 87 Atl. Rep. 651, is a notable contribution, along this line. At the last moment, too late for express citation, a decision of the New Jersey Court of Appeals in December, 1914, is said to support a full allowance for franchise value. Can it possibly be true? *Cf.* p. 370, *infra.*

[4] *Simpson* v. *Shepard, etc.,* 230 U. S., 352; reprinted in Ripley, Railway Problems (rev. ed.), pp. 642–715; *Political Science Quarterly,* vol. XXIX, 1914, pp. 57–84.

of the declaration that where inter-blending of Federal and state activity is such that adequate regulation cannot otherwise be maintained, the proper solution is, "through the exertion by Congress of its paramount constitutional authority."[1] But they deservedly also take high rank among opinions dealing with reasonable rates and valuation. On this side of the case there is a sharp differentiation from preceding opinions in being more like an economic treatise than a legal judgment. Data both as to reproduction and original cost had been collected through an elaborate investigation by a master. Here was a concrete instance calling for the application of well-formulated legal principles to an elaborate official presentation of facts, not for the undivided net-work of the state but road by road. The basis was still held to be the fair value of the property used; but the ascertainment thereof was held not to be controlled by artificial rules. "Not a matter of formulas, but the application of business judgment to particular transactions." Broadly speaking, the technical interest of this decision is threefold; in the discussion of methods of apportionment between companies and states;[2] in the treatment of land values; and in the clear analysis of depreciation. Replacement cost, new, for railroad purposes, as allowed by the master for real estate, was definitively rejected in favor of the fair average market price of land. The fortuitous equivalence of wear and tear and appreciation for other tangible assets, inducing the master to disregard depreciation entirely, was held to be scientifically untenable. The treatment of the increment in land values is,

[1] On this matter of conflict of Federal and state power, the Shreveport cases also deserve consideration. *Cf. Harvard Law Review*, vol. XXVIII, 1914, pp. 34–81.

[2] Concerning the difficult problem of apportionment of business between different states or roads, the latest authoritative opinion is in this case. (Reprint, Ripley, Railway Problems (rev. ed.), pp. 684–687.) Gross receipts are rejected in the South Dakota case, 176 U. S., 167; with a leaning to ton mileage in the Phosphate cases, 203 U. S., 256. Nor need every mile pay by itself; 156 U. S., 649. *Railway Age Gazette*, vol. LVII, 1914, p. 17, outlines complications. *Cf.* also footnote, p. 341, *infra*.

perhaps, the most far-reaching portion of this leading decision.[1] The Consolidated Gas Company case had to do with values in the great cities; this one dealt with the right of way out in the open, as well as with terminals. New phases of the subject, if not settled, were at least laid open for dissection, some of them going down to the fundamental principles of valuation practice. Adherence, it will be noted, to the standard of present worth still prevailed. Thus:

> "It is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment. If that has been reckless or improvident, losses may be sustained which the community does not underwrite. As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership, and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law."

One recent Supreme Court opinion is sharply outlined against the background of all the rest, as embodying, half-revealed, an entirely different conception, both legal and economic, of rate reasonableness.[2] Two criteria have long been recognized by the courts, one having reference to the carriers' rights, the other safeguarding the patrons. The railroad, on the one hand, is entitled to a fair return upon the fair value of the property in use; the public, on the other, may be charged no more than the service is reasonably worth. One forbids confiscation; the other, extortion. One defines a minimum, the other a maximum rate. Between the two lies what has been well termed a "twilight zone." Now all the foregoing decisions, — such being the predilection of judges, especially in the interpretation of the Fourteenth Amendment — reason from the standpoint of property rather than from that of

[1] P. 351, *infra*.

[2] *Cotting* v. *Kansas City Stock Yards Company*; 183 U. S., 79 (1901).

public use or interest.[1] It is on this ground that competent critics have urged an entire change of legal basis for the determination of reasonable rates; namely that regulation should be viewed, not as at present as an exercise of the power of eminent domain and, consequently, with an eye single to the effect upon income, but rather as an exercise of the police power which holds the public interest, not property, in the foreground. The notable opinion in the Kansas City Stock Yards case thus reversed the customary process of reasoning. Curiously enough, by indirection it regained the point of view of the old English common law, that persons engaged in a public calling might "charge for each separate service that which was a reasonable compensation therefor." It will be noted, nevertheless, that this suggested a line of reasoning applicable only to the reasonableness of particular rates for service rendered, and not of any general schedules like the Rate Advance case of 1913–'14.

Concretely, the question at bar in the Stockyards case was: first, whether they were subject to regulation at all; and secondly, if so, whether rates yielding 11 per cent. on the investment were exorbitant. As to the first point, incisive distinctions were drawn between public service companies and those in which the people had a more remote or indirect interest in their use. Concerning a fair rate of return, the practical result suggested, was that reasonableness should be measured, not by the aggregate profits, which depend upon the volume of business, but upon the inherent fairness of each charge — the value, that is to say, of each separate service to the patron. Reductions, in other words, might not be demanded

[1] *Cf.* Smalley (Reprinted in Ripley, Railway Problems, p. 636 *et seq.*), noting the manner in which judicial decisions tend to ignore their own qualifications of the right to reasonable return, such as the unwisdom of the original investment, the lawfulness or honesty of practices and management, and the cumulative character of elasticity of returns. *Cf.* also President Hadley of Yale on the Fourteenth Amendment, *The Independent*, Apr. 16, 1908.

because profits were large; but only on the ground of their being innately excessive. "If he has a thousand transactions a day, and charges in each but a reasonable compensation, such charges do not become unreasonable because, by reason of the multitude, the aggregate of his profits is large." Is this not, perhaps, the distinction from another viewpoint between that value of property and value of service, so obscurely treated in the Nebraska Maximum Rate case? [1]

Whether there are, indeed, positive or absolute standards of reasonableness, irrespective of circumstances, was in reality not settled in this opinion. The court set aside the law reducing rates, to be sure; but it did so on other grounds, the reductions not applying to other like businesses throughout the state. And judgment upon this point as to the standard of reasonableness was expressly reserved. Is it not, perhaps, pregnant with meaning? [2] Why do not the carriers wrest it as an argument for their own protection from the advocates of the public interest by whom it was first advanced, and turn it against its original sponsors? [3] Probably because of several valid economic objections. In the first place, practically all railroad-made rate structures, time without end, have been profoundly and primarily influenced by considerations of what the traffic would bear. Volumes of testimony from the carriers' side might be cited in favor of the view that no such thing as an absolute standard of rates exists; that charges vary with every breath of commercial circumstance that blows; that rates fair at one time and in one setting, may readily become onerous and may require modification to suit the exigencies of the market; and particularly that all rates are inextricably entwined with the volume of traffic.[4] And all these are actually true. It would be supremely illogical, the

[1] P. 319, *supra*.

[2] Whitten, Valuation, p. 56, applies it to valuation of obsolete or misplaced parts of a plant.

[3] *Cf.* the Soft Coal Rate cases; 22 I. C. C. Rep., 673.

[4] Ripley, Railroads: Rates and Regulation, pp. 71, 86 and 118.

flimsiest possible defence for the carriers, to shield themselves behind that which for so long a time has been the subject of their violent animadversion. Whatever there may be in this line of reasoning, — and it is by no means certain that there is not a great deal, although at first sight it seems to run counter to sound economic reasoning — ranges itself naturally on the side of the public. What the service is worth to the community, not what it costs the carriers to produce it, is the gist of the reasoning.

Does the fixation of reasonable rates by public authority call for an ultimate limitation of the rate of return? Legally it has been clearly held that service even for positively unremunerative rates is not of necessity unconstitutional.[1] For persons engaging to perform public business, voluntarily, must be aware that the prime consideration therein is not profit but satisfactory service. Consequently, in view of the larger interest, they may even be required to submit to pecuniary loss. They took chances. The state guaranteed nothing. Moreover, it has also been held that the rate of return, that is to say the profitableness of operation, need not be the same for all classes of traffic.[2] But, apart from the bare legal aspects of the matter, broader considerations of public policy come into play. The older view that transportation is a private business, affected it may be with a public interest, seems to be in process of relinquishment, in favor either of the opposite contention that railroads are public property tinged with a private interest, or that private capital is merely an agent operating on behalf of the state as principal.[3] But, it is submitted, sight must not be lost of the fact that, in any event, it is a question of partnership and of unity of interest.[4] To compel insufficient profits for private capital is

[1] Minnesota Coal Rate case, 186 U. S., 257 (1902); also Kansas City Stockyards, 183 U. S., 93; Ripley, Railway Problems (rev. ed.), pp. 630, 730, 732.

[2] 22 I. C. C. Rep., 604, 673.

[3] *American Economic Review*, vol. IV, supp., pp. 24, 49.

[4] Already discussed in connection with surplus; p. 238, *supra*.

no less inimical to the public interest than, as too often in the past, to allow them to an unlimited degree.

Public regulation in future must not be governed by the mandates of the law applied too narrowly. It may be sound business policy to be more generous, — sufficiently generous, that is to say, to make it certain that an adequate supply of capital for future needs shall be forthcoming.[1] The immediate danger is assuredly too great niggardliness in this regard. Now firmly established in power, both by national legislation and interpretation by the highest courts in the land, the next step for the public in the development of sound governmental policy should be a frank recognition of the need of an ample return to private capital. Any other course is bound to hamper development and, in days to come, even worse, to promote a campaign for government ownership. Whether a theory of partnership can be applied to railroads automatically in any positive way seems doubtful. The sliding scale by which charges for service and rates of dividend are yoked together, so sound in theory and so successfully applied to municipal utilities,[2] seems inapplicable to railroads. Some device by which the three essentials of adequate service, efficient operation and fair profits may be automatically linked up together is certainly a need of the present time.

Administrative commissions, both state and Federal, with the progress of time have devoted more and more attention to considerations of value of property. Obviously, when urged by counsel for the railroads, as we shall see, the argument would be given great weight. But even when not so urged by the carriers, administrative bodies have sought firm footing

[1] *Cf.* the dissenting opinion in the 5 Per Cent Rate Increase case, 31 I. C. C. Rep., 434; *Journal of Political Economy*, vol. XVIII, 1910, p. 593; *American Economic Review*, vol. IV, 1914, p. 573.

[2] Whitten, Regulation of Public Service Companies in Great Britain, 1914; Publications of the American Economic Association, 3rd ser., vol. XI, p. 220. On American cities, *vide Electric Railway Journal*, Oct. 10, 1914, pp. 720, 732 and 691.

for their decisions upon positive data of this sort. The need for it in official form led the state of Texas as far back as 1893 to confer authority by statute upon its railroad commission to make such valuations whenever needed.[1] The Wisconsin two-cent fare opinion,[2] — one of the most elaborate, thorough and judicial in presentation of all sides of the issue — is also noteworthy as analyzing the elements of cost and value to the last detail. Such a model report is in itself the strongest possible argument for the application of similar scientific analysis to all problems of control of public service corporations. The salutary veto by Governor Hughes of the New York two-cent passenger fare law in 1908 was based, not upon the unreasonableness in itself of such a rate but upon the entire absence of any concrete data as to the value of the investment in relation to present or prospective returns. The subsequent reliance of the New York public service commissions upon considerations of this sort are outlined elsewhere.[3]

Federal administrative opinions calling for physical valuation are numerous. A few typical ones must suffice. The added responsibilities under the new rate laws, together with the interpretation of the statutes as to reasonableness of rates by the Supreme Court, have given greater prominence to such matters with the passage of time. One of the earliest cases was in 1888,[4] when a fair value of $110,000,000 for the Pacific roads concerned was set over against a reproduction cost of $50,000,000. In 1905 a typical and instructive dilemma was put up to the Interstate Commerce Commission.[5] The capitalization of certain Texas roads ranged all the way from $98,600 for the St. Louis Southwestern to $22,700 for the Gulf, Colorado & Santa Fé. Yet these two lines had approxi-

[1] P. 301, *supra* and 333, *infra*.

[2] W. R. C. R., 1907, 101. *Cf.* the parallel two-cent fare case before the Virginia Commission; *The Railway Age*, May 10, 1907.

[3] P. 286, *infra*.

[4] Pacific Railway Commission, 1888, p. 23.

[5] 11 I. C. C. Rep., 263. *Cf.* also 9 *idem*, 382, on Proposed Rate Advances.

mately equal gross income, operating expenses and maintenance accounts, and were competitive for business. Capitalization data under such circumstances afforded no basis for an opinion as to the reasonableness of rates to be charged uniformly by the two. All that the Commission could do was to apply data for the average cost of reproduction of like properties, similarly circumstanced. Then came the leading rate advance cases of 1911,[1] for the eastern roads emphasizing fair value of the investment, while for the western roads referring rather to actual cost. Still another typical opinion[2] in 1912 concerning soft coal rates, disclosed the embarrassment of the Commission in passing upon the reasonableness of rate schedules with no positive data at hand except book cost, — well understood to be in most cases worse than useless. No need to emphasize further the important rôle played in administrative decisions by official valuation! The commissions have of necessity followed the same line of argument pursued by the courts. From the logic of the reasoning there was no escape. Federal valuation was the inevitable outcome.

The manner in which the investment value of railroad properties has been forced, willy nilly, upon the attention of the government by legal counsel for the carriers, as a defense against rate orders or statutes, may be indicated by a few leading examples. One of the most prominent was the so-called Intermountain Rate cases, covering the transportation grievances of a large section of the United States, and concerning the final determination of a large number of disputed points in the field of rate regulation.[3] So sturdily was the value of the property urged by counsel, particularly for the Northern Pacific in respect of Spokane rates, that a majority

[1] 20 I. C. C. Rep., 243 and 307. *Cf.* also the revived Cincinnati Southern case, in 1910; Ripley, Railroads: Rates and Regulation, p. 588.
[2] 22 I. C. C. Rep., 604.
[3] Discussed as a rate problem in Railroads: Rates and Regulation, pp. 610 *et seq.*; also Railway Problems (rev. ed.), p. 464 ff.

of the members of the Interstate Commerce Commission is reported to have changed its views, and to have become convinced of the need of official valuation for the future. Within two years, in a succeeding case concerning lumber rates to the Pacific Coast, the injection into evidence of a valuation one-fourth larger than before, still further emphasized the need of reliable official data. The long-contested Danville, Va., rate case affords another instance of prominence assigned by railroad counsel to this aspect of the matter of reasonable rates.[1] Constantly, in fact, controversy over particular rates causes the amount of the investment to crop out in evidence. But more than ever does valuation come to the fore in those controversies touching the general level of rates as a whole. A considerable part of the testimony in the eastern Railway Rate Advance cases of 1910[2] had to do with the amount of the capital investment and the rate of return thereon. Not definitely settled, but merely postponed owing to the persistent rise of prices and operating expenses, a recrudescence of the general question of reasonableness of eastern railway tariffs as a whole, occurred in 1912–'14. Somewhat less prominently, but still standing ever in the background, the same issue of investment value and rate return presented itself in this great case.[3] From such a record, it is evident that the matter of physical value has not been primarily of governmental making, but has constantly been pressed upon the attention both of administrative commissions and of the courts on behalf of the carriers themselves. It is obviously in order, for us to examine attentively both the theory and the practice of physical valuation, as an essential element in the determination of reasonable rates for service rendered.

[1] Railroads: Rates and Regulation, pp. 227, 483; and Railway Problems (rev. ed.), chap. XVI.
[2] Railroads: Rates and Regulation, pp. 594–600.
[3] 31 I. C. C. Rep., 351.

CHAPTER XI

PHYSICAL VALUATION:[1] REASONABLE RATES

PHYSICAL inventories of private property of all kinds by governmental authority have long been taken at intervals for purposes of taxation. Occasionally, also, in cases of demonstrated necessity, appraisals have been made, either for direct purchase by the state under condemnation proceedings, or in order that takings may be had for certain public uses, such as railroad construction, under exercise of the right of eminent domain. Both of these forms of valuation for purchase have

[1] The best authority is R. H. Whitten, Valuation of Public Service Corporations, 1912, with a supplementary volume, 1914. Other references in Congressional Library lists, 1905 and 1909; as also *Proceedings American Society Civil Engineers*, August, 1913; H. V. Hayes, Public Utilities, 1913; O. L. Pond, A Treatise on the Law of Public Utilities, etc., 1913; Bruce Wyman, Public Service Corporations, 1911, especially chap. XXXII. For economic, as distinct from engineering or legal analysis, chronologically, consult *Publications American Economic Association*, 1906, pp. 1–145; *idem*, series iii, vol. XI, 1910, pp. 183–288; *Political Science Quarterly*, vol. XXII, 1907, pp. 577–610 (by the author); *Yale Review*, 1908, pp. 366–399; Hearings on Railroad Rate Increases, 1910, 61st

occurred under judicial authority and by "due process of law."[1] And now there have been added in recent years two other reasons for formal valuation of all property like railroads, affected with a public interest. The older of these, dating from the early '70s, as we shall see, has to do with the exercise of the power to regulate rates for common carriers. The other is even more recent. It is concerned with the regulation by the state of the issue of securities. Originally an outgrowth of rate supervision, such control of capitalization, as has been noted, is now recognized as fundamental for the assurance of safe and adequate service as well.[2] Whether the economic and legal principles governing valuation for all four of these more or less distinct purposes above enumerated are identical need not concern us at this time. It will suffice to point out that the rise of formal physical valuation has been gradual. There is nothing revolutionary in the idea. It has time-honored antecedents, notwithstanding the fact that the present aims differ so radically from those which actuated the state in first instance, and that such valuation is now intrusted to the administrative more largely than to the judicial arm of the government. The practice of valuation in itself can hardly be said to run counter to conservative sentiment, whatever may be true as to the purpose for which the valuation is to be used. Physical valuation by the government, then, is no novel experiment, fraught with vast and unknown possibilities of evil. Nor is the demand for it a sudden and portentous manifestation of socialism, threatening to overturn the institution

Congress, 3rd session, Sen. Doc. no. 725, 10 vols. (index); Report, Valuation Committee, National Association of Railway Commissioners, Proceedings, 1911, p. 145 ff.; Discussion, *American Economic Review*, vol. IV, supp. 1913, pp. 18–68; *Atlantic Monthly*, March, 1914, pp. 403–416. On valuation as protecting the investor, by the author in *Journal of Political Economy*, Jan., 1915.

[1] *Cf.* the Minnesota Rate cases in 1890, seemingly reversing ***Munn*** v. *Illinois*, 94 U. S., 113; *Public Service Gas Co.* v. *Board of Public Utility Com'rs*, 87 Atlantic, 651; Opinion of Justice Swayze at p. 639, etc., mentioned in the preceding chapter.

[2] P. 281, *supra*.

of private property. After an initial period of panic at the idea, the railroads of the country have, in fact, come to perceive so many safeguards for their standard of rates, of income and of service, that the Federal legislation of 1913, extending the scope of valuation from a few scattered commonwealths to cover the entire United States, encountered practically no opposition at all.

The special physical inventory of railroad property for purposes of taxation began in Michigan in 1900, when some seven thousand miles of line were evaluated. Wisconsin imitated it in 1903. And then followed in order other states, still interested primarily in taxation questions: South Dakota in 1908, Nebraska and New Jersey in the following year, and Kansas in 1911. In each instance the state legislatures authorized the task neither with a view primarily to rate regulation nor the prevention of stock-watering, but in connection with the taxation of railroad corporations. The pressing demand for an equalization of tax burdens, as between the farmers with visible and tangible possessions alone, and corporations with unknown and concealable assets and investments, lay at the root of the matter. It was only after the results were achieved and officially published, that the people became aware of their significance in connection with other matters than taxation.

Regulation of the issue of railroad securities, rather than taxation, as an incentive to physical valuation first made its appearance in Texas — a true pioneer in this field. Since 1893 an inventory of practically all the lines within its borders has been made. As has already been pointed out,[1] the railroad commission appears to have pressed rather hard upon developmental or improvement work; but, in the main, the influence of this law upon capitalization seems to have been salutary. Texas, then, is unique in having engaged in this work with reference primarily to railroad capitalization; al-

[1] The experience is reviewed in chapter IX, *supra*.

though, latterly, several other commonwealths are working along the same line. Comparatively few states have attempted physical valuation solely in connection with rate regulation. Among the few which have done so are, Washington in 1905 and Minnesota two years later. This last instance, especially its later phases, is peculiarly illustrative of the intimate relationship between valuation and the control of rates.[1]

The legislature of Minnesota in 1907 enacted both a two-cent fare and a commodity rate law; and, upon appeal to the courts, an exhaustive inquiry was made by a master in chancery as to the reasonableness of the rates thus prescribed. Pending his decision — which by the way was adverse to the state — the railroad commission was ordered to make an official inventory. A number of novel points of detail were raised, especially as to the valuation of the right of way. The railroads contended for a proportionately higher value for real estate than for contiguous property, it being well known that the companies always have to pay more in first instance. And they insisted upon applying this "multiple," which happened to be three, not to the original cost of the land but to its present worth. This in effect increased the "unearned increment" three times over, and made a difference of over 40 per cent. in the valuation of the real estate. Whether the cost of reproduction, which was sought, should be $42,000 or $57,000 per mile, depended upon the solution of this and other allied questions. In any case the valuation was surprisingly high, in comparison with one hastily made by a special state senate committee two years earlier, giving only $27,000 per mile of line as the present value.[2] These Minnesota figures were markedly higher than those for the neighboring state of Wisconsin. Still higher valuations were allowed by the state of Washington in its first official returns, made in the same year.

[1] *Steenerson et al.* v. *Great Northern Railway Company*, **72 N. W. 713** (1897); and *Shepard* v. *Northern Pacific Railway Company*, **184 Fed. 765** (1911).

[2] Known as the Sundberg Committee Report.

One of the novel features in this latter inquiry was the attempt to ascertain from the records the original costs of construction, together with all subsequent outlay for betterments. Determination of the "market value" of the properties was attempted. Careful engineering study was made at the same time of all present costs of construction, in the hope of ascertaining a "unit cost" of reproduction which could be supplemented from year to year.[1]

Appraisal of the physical assets of a number of individual roads, entirely at their own initiative and expense rather than by public order, has been made in recent years. The purpose is not always clear. Sometimes it has been done in order to establish a new bench-mark for property investment on the balance sheet; sometimes, as by the New Haven Railroad, in a vain attempt to justify an overloaded capitalization; sometimes in connection with public agitation over rates; and, quite commonly of late, parallel with and as a check upon the work of state and Federal railroad commissions. There has been a decided shift on the part of the carriers from an attitude of hostility and apprehension toward valuation to one of toleration or approval. And a number of strong companies have set about putting themselves in an impregnable position as respects future rate regulation, by undertaking this work on their own account. The New Haven, prior to its downfall, made great use in an advertising way both of its own private inventory and of the official returns of the so-called Massachusetts Validation Board of 1910. Among other instances, one notes the Lehigh Valley appraisal of 1903 and that of the Lackawanna in 1911.[2] The state of public opinion toward the anthracite coal roads has undoubtedly influenced these companies in undergoing the expense of such an investigation.[3] Under Federal valuation, now in process, the hearty co-operation

[1] The results are set forth on p. 342, *infra*.

[2] The Canadian Pacific, from Montreal to Detroit, and the Harriman lines have also made physical valuations; but the data are not available.

[3] 21 I. C. C. Rep., 144, for example. Also Chapter XVI, *infra.*,

of the roads with the government promises to furnish a large body of data independent of the official documents. Students of the subject will find many of the results of these private appraisals in the official reports on valuation of such states as Nebraska, Kansas, Wisconsin and New Jersey.

The culmination of the movement in favor of railroad appraisal was the enactment by Congress in 1913 of a Federal valuation law. This was a logical sequence of the preceding legislation on the general subject of rate regulation.[1] The matter had by this time risen above the plane of partisan politics; although the Democratic national convention was the only one specifically to recommend both valuation and the control of railroad security issues. Credit for this legislation, however, undoubtedly belongs to the Progressive party, and particularly to Senator La Follette of Wisconsin.[2] Democratic and Republican members of Congress without distinction soon joined hands in favoring the movement, which was also urged by the Interstate Commerce Commission. Favorably reported in 1912, the bill became a law in the following year. Recognizing the then chaotic judicial and administrative status of the question, as will shortly be pointed out, Congress wisely refrained from prescribing any particular plan. All alike were comprehended. Both the conflicting decisions of the courts and the divergent practice of state commissions rendered this the only expedient course. The law directed the Interstate Commerce Commission to proceed at once to ascertain the following items: original cost to date; the cost of reproduction, new; replacement cost less depreciation; and, separately, all other elements of value, if any; together with an apportionment of these items as between the different states, and an analysis of the methods by which the several costs were ob-

[1] The history is given in Railroads: Rates and Regulation, chap. XIII *et seq.*

[2] His elaborate speech of April 19, 1906 (*Congressional Record*, vol. XL, p. 5993 ff.), marks the beginning of the movement. *Cf.* his Autobiography for details.

tained. The amount and value of donations of cash or lands were called for specifically. The provisions of the statute were thus sufficiently broad to comprehend all possible elements of worth. The ascertained amount of the investment was subsequently to be kept up to date, furthermore, by periodic revision and correction, covering all extensions and improvements. The law also called for active co-operation of the carriers in the way of affording access to all records; and it defined a procedure for appeal to the courts in case of any controversy either over method or administration. On the whole, the magnitude of this task greatly increased with the elaboration of the plan. The probable cost to the government alone, is now estimated to be possibly as high as $50,000,000.

Active prosecution of the Federal work took place promptly.[1] The country was divided into five districts, comprising approximately 50,000 miles of main line each. Charge of the work was assumed by one of the ablest and most experienced members of the Commission, Hon. Charles A. Prouty, who resigned in order to devote his entire time to the matter. It would lead too far astray to describe the details of this work. It is a colossal task. If we bear in mind, not only that every title, record, blueprint, specification and contract since the beginning must be overhauled, but also that roadway and track parties must inventory and measure every structure, cut, and fill, taking cross-section measurements and checking depths by test pits, even calipering the rails for measurement of wear, some notion may be had both of the time and the expense involved. Will it be worth the cost? Assuming that a prime purpose is to ascertain the amount upon which the public should be required to pay returns, suppose that the valuation should alter this basis by only 5 per cent. At a rough guess of $20,000,000,000 as the total value of the railroad properties, such a change would amount to one billion dollars. An annual 6 per cent. return upon this sum would be $60,000,000. The

[1] Details in *Railway Age Gazette*, vol. LVI, 1914, p. 1530.

difference, consequently, either to the public or the carriers for a single year, might well amount to as much as the entire first cost of the undertaking. And then, quite aside from any consideration either of cost or specific utility, the political importance of the task as affecting the state of the public mind toward common carriers quite transcends calculation.

In many states, local and private appraisals of public utilities other than railroads have been made in recent years, such, for example, as those of the St. Louis street railways[1] and of the Chicago Telephone Company in 1912, by public authority; and of the New England Telephone Company and of many gas, electric light and water properties, semi-privately, all over the United States.[2] It would be interesting to develop the economic principles involved in all of these outlying fields, as affording a background for the special treatment of railroad valuation, did space permit; although a different economic status places railroads in a class by themselves.

The difference between commercial and physical valuation is best shown by describing the processes adopted in each case. Commercial valuation is gotten by applying the market value which they possess to the volume of securities outstanding. The starting-point is the estimation set upon worth upon the exchanges. Every sort of consideration as to value enters into the calculation; possibilities for the future, both of good and ill; growth of the country; restrictive legislation; potential competition, even of railways or waterways not yet built; speculative manipulation; and a host of other such intangible elements. Unfortunately, too, it includes also the uncertain factor of varying investment demand, speculation, the state of the money market and the like, none of them affecting the individual properties but bearing upon general trade conditions. The mere rails, terminals and equipment may indeed under

[1] By the St. Louis Public Service Commission, now merged in that of the state of Missouri.

[2] Examination of Whitten will show how widespread these activities are. Pond, *op. cit.*, confines attention entirely to local public utilities.

such circumstances form but a small part of the total commercial value. Physical valuation, by way of contrast, does not originate upon the exchanges and among traders. It is made by engineers and other experts in the field. It has been aptly termed a bric-a-brac valuation, as distinct from commercial estimates which deal with the property as an indivisible whole. Each separate physical item of property is assigned a value dependent upon its cost and the length of its life. Experts view the real estate; check up the construction engineers' plans and figures as to cuts and fills, in terms of so much per cubic yard for grading; swarm in inspection over the bridges, wharves and ferry-boats; rebuild upon paper the stations and freight terminals; literally count and measure the rails, ties and telegraph poles; re-audit bills for purchase of locomotives and cars and interpret them in terms of present prices, length of life and depreciation; in short, make an inventory or take account of stock in precisely the same way and with the same attention to minute detail that a merchant or manufacturer annually devotes to his property. There is no concern for the future; potential earning power is not estimated; nor, theoretically, does chance enter in. The physical valuation is itemized, aims at precision and is matter-of-fact to the last degree. It catalogues merely the bare bones of the property. All the living tissues, those values arising from the use to which the property is put, are scheduled in another category of intangibles.

Purely commercial valuations, in the full sense of the term, in contradistinction to the foregoing physical inventories, — that is to say, investigations based upon market prices of railroad securities, — have been made by the Federal government alone. Both in 1900 and 1904, in response to the orders of Congress, the Interstate Commerce Commission, and later that body in co-operation with the Federal Census, totalized the market values of every species of railroad stock or bond outstanding in the United States. The inherent defectiveness

of such figures is revealed at once upon comparison of the results obtained in the two different years. Thus in June, 1900, the market value of all securities outstanding was found to be $8,351,000,000, with a par value of $11,734,000,000. Exactly four years later, the market value had risen to $11,244,000,000, the par value standing at $13,213,000,000. No such change in intrinsic worth as this — an increase in market value amounting to more than one-third, with an increase of one-eighth in par value — could have ensued within so brief a lapse of time. Nor was the relation between market value and par value in any wise consistent. For in 1900 the securities averaged about seventy cents on the dollar of par. In 1904 this average in relation to par value had risen to eighty-five cents on the dollar. The fact was that a considerable expansion of net earnings had been made the basis of an exaggerated speculative inflation, which was immediately reflected in purely "fancy" quotations upon the exchanges.[1] Moreover, in many instances, unduly inflated prices had been caused by competitive purchases of stocks by rival lines, for purposes of control rather than for investment. For many of these securities, even in normal times, any attempt to realize such prices would at once have caused a ruinous decline in quotations. The totals above named, therefore, must be regarded as in many respects fictitious and misleading. They are of interest, perhaps, as showing changes in market conditions from year to year, but not as possessing the static value which attaches to a physical inventory. No reliance whatever, as the law now fully recognizes,[2] can be placed upon them as a basis for regulation of rates, for issues of stocks or bonds or for taxation.

The positive results of the valuation which have been made of railroad properties are exhibited in the following table[3] —

[1] Details in chapter V, *supra*.

[2] Chapter X, *infra*.

[3] Statistical data are derived from official Federal and state reports. The full titles of these to 1912 will be found in the bibliography in Whitten,

RESULTS OF VALUATION PER MILE OF LINE

	Nature of Valuation	Capitalization, Par	Commercial (Market) Valuation	Physical Valuation: Reproduction, New	Physical Valuation: Present Value (Duplication, less depreciation)	Total Present Valuation (Duplication less depreciation, plus intangibles)
United States	Commercial	1900, $60,600	1900, $43,200 1904, 52,600			
Texas	Capitalization	1894–6, 40,800 1905–9, 32,000	... ...	... ...	1894–6, $16,000 1905–9, 22,200	1908, $31,800[1]
Michigan	Taxation	1900, 37,300 1907, 42,900	... ...	1900, $26,000 ...	1900, 21,300 1907, 24,500	
Ohio	Taxation	...	1903, 75,000			
Wisconsin	Taxation and rates.	1909, 44,200	... ...	1903, 30,900 1909, 41,800	1903, 25,500 1909, 33,900	
Washington	Rates	1905, 53,300	1905, 64,875	1905, 64,300	1905, 58,300	
Minnesota	Rates	1907, 39,500	... ...	54,200[2] 49,200[3]	47,500[2] 42,500[3]	
South Dakota	Taxation	1909, 35,100	...	1909, 26,900	1909, 23,200	
Nebraska	Rates	...	...	1909, 48,000	1909, 41,000	
New Jersey	Taxation	1909–11, 174,500	...	175,000[4]	...	1909–11, 167,600
Kansas	...	...	...	1911, 37,200	1911, 27,500	

[1] For taxation.
[2] Land at plus value, 1907.
[3] Land at average value only, 1907.
[4] 1909–'11.

figures being reduced to the uniform basis of miles of line of roadway. Examination of this data reveals a surprising range as between the different states. Due allowance, of course, must be made: for such physical differences as those of rugged and flat country; for density of population and traffic, affecting costliness of terminals, grade crossings and single or double tracks; for temperament or bias, influencing official judgments; for the purpose in hand, whether of taxation, rate regulation or what not; and particularly for technique in making the appraisal, as will be described shortly. How important this last consideration may be, appears in the two sets of results for Minnesota, according as the right of way was valued higher than adjoining land for railroad purposes, or was taken at the average figure for the entire district. Details of this sort, notably the handling of depreciation or of going value, profoundly affect the total.[1] It is but natural, therefore, in view of these circumstances, that the results, even as between states similarly circumstanced, should differ widely from one another. Take the present physical valuation, for example. Texas finds it to be $22,200 per mile of line in 1905. From this level, not unlike Michigan and South Dakota, one traces an ascending series in the following order, through Wisconsin and Nebraska, up to Washington at $58,300. New Jersey at $167,000 stands apart, not only because differently circumstanced physically, but also because an element of intangible value is included in

op. cit. Later results included herewith are in part taken from Bulletin, Bureau of Railway Economics, Washington, 1911; New Jersey Tax Commission, Report on Revaluation of Railroads and Canals, 1911; Nebraska Railway Commission Report, 1911-14; Kansas Utilities Commission Report, 1913. Washington is well reviewed in *Journal of Political Economy*, vol. XXI, 1913, pp. 332-344; New Jersey in *Railway Age Gazette*, vol. LIII, 1912, p. 243; and Nebraska in *ibid.*, vol. LVI, 1914, p. 275.

[1] Much depends upon the way in which allocation is made between states, whether according to miles of line, of track, of units of traffic or equipment, or even perhaps, with special distribution of capitalization and values for terminals. New Jersey assigned $10,000,000 for the Pennsylvania, for example, to lines west of Pittsburg. *Cf. Railway Age Gazette*, vol. LVII, 1914, p. 17, and 22 Interstate Commerce Commission Reports, 616, for soft coal rates; as also Ripley, Railway Problems (rev. ed.), p. 732.

the returns. But it is less easy to understand why Minnesota should value her railroads almost twice as high as do Texas, Michigan or South Dakota. Turning from present physical value to reproduction cost, new, one finds somewhat greater uniformity, the varying treatment of depreciation being eliminated. Yet even here the range is wide; and all sorts of incongruities appear. The figures for capitalization per mile of line afford somewhat greater satisfaction to the seeker for uniformity; but caution is advised, because of the purely arbitrary rules for apportionment as between the states. One seems to detect a normal level of about $40,000 — with a range from $35,000 in South Dakota to $53,000 in Washington. New Jersey once more stands in a class by itself. In fine, the first impression of incompatibility as to results, derived from inspection of this data, is discreditable to the whole procedure.

Comparison of the different items in the appraisals with one another within each state standing by itself, rather than as between different states, is slightly more reassuring. However widely the different inventories may range in interstate comparisons, the margins between physical and commercial valuations made by the same authorities check up more or less roughly one with another; that is to say, a certain relativity between the different items along horizontal lines of the table seems roughly to obtain. But even here the differences are either referable to the particular method of valuation employed, or else require interpretation in the light of physical and social conditions. It is evident that such piecemeal valuation, state by state, each according to its own special plan, leads to confusion worse confounded. If the work is to be done with at all satisfactory results, so far as interstate comparisons are concerned, it must evidently be performed by the Federal government according to a uniform plan.[1]

[1] The so-called New Haven Validation Report of 1910 was perhaps the first one to comprehend an entire railroad system, without regard to state lines.

The most important general conclusion to be drawn from the foregoing data has to do with the relation between physical valuation and capitalization. The returns in this respect are, with substantial unanimity, in favor of the contention of the carriers that their outstanding issues of stocks and bonds at the present day are fairly represented by the worth of their physical properties. For five states taken together,[1] the physical valuation new, is $142,000,000 in excess of the outstanding securities at par — depreciation, it is assumed, about offsetting their extra value as going concerns.[2] Turning to our table for comparison, of security issues with present physical value, state by state, the evidence is conclusive that over-capitalization does not exist; and that, on the contrary, there is a comfortable margin of real value over and above the amount of outstanding stocks and bonds. This is, for example, evinced in Minnesota where the average capitalization is $39,500 per mile, as against a considerably greater present value, even where the right of way is most conservatively appraised. New Jersey returns $174,500 capitalization at par against practically the same figure for reproduction, new. Present worth is found to be $167,600.[3] Washington, Wisconsin and even Texas present a similar substantial equality between capital liabilities and assets, depreciation being considered as an equivalent for going value, as above stated. For Washington, where market valuation was sought, it was found that the commercial inventory was considerably in excess of present worth. Wisconsin and Michigan, to be sure, return a capitalization at par

[1] Minnesota, South Dakota, Wisconsin, Texas and Washington. Another combination, including Michigan and omitting Texas, gives a combined net capitalization of $1,211,000,000 as against reproduction cost, new, of $1,212,000,000, and present value of $1,035,000,000, with no allowance for going value. *Atlantic Monthly*, 1914, p. 412.

[2] P. 363, *infra*.

[3] The surplus in favor of some individual roads, such as the Pennsylvania, the Lackawanna and even the Erie, is large. The Reading and the Lehigh Valley evince substantial equality; but these all include large coal properties. *Railway Age Gazette*, vol. LIII, 1912, p. 244.

somewhat greater than present replacement value; but this is far more than counterbalanced by the omission of the intangible worth attaching to a going concern.[1] The case of the New Haven appraisal of 1910[2] is peculiar, not alone in purpose but in method. But the reported excess of assets over capitalization, amounting to $101,600,000, is not without significance. On the whole, therefore, it is indisputable that the hoary-headed bogie of an immense over-capitalization of American railroads is laid at rest by the results of these official investigations. Whatever the condition may have been in the last century,

	Present physical value[1]	Intangible value. (going concern)	Per cent intangible to physical value	Capitalization
New Jersey:				
Penn. R. R.	$158,000	$27,600	17.	$137,600
Reading	68,400	21,000	31.	67,800
Erie	195,600	22,100	11.	136,500
Lackawanna	285,900	54,400	19.	260,000
Lehigh Valley	310,300	58,700	18.	315,200
All roads	$167,600	$34,300	20.	$174,500
Nebraska:				
Chic. Northwestern	32,450 (land =)[1]			
South Dakota:				
Chic Northwestern	23,570 (land 250 %)[2]			
Kansas:				
Union Pacific	27,500			
Washington:				
Northern Pacific	104,000			
Great Northern	70,500			

[1] Symbol for equality.
[2] Apparently value new, less depreciation, plus intangible value or going value.

[1] P. 361, *infra*.
[2] Reprinted in *The Railway Library*, Chicago, 1911. *Cf.* also p. 335, *supra*.

there can be no doubt that the growth of the country has in most cases more than expunged the water; and that at the present time a substantial equity over and above the capital liabilities exists. This happy outcome of physical valuation, so far as it has progressed to date, explains the marked change of attitude of the carriers toward the whole proposition for an official inventory by the Federal government. It confirms the conclusion, already reached from another point of view,[1] that on the whole the average rate of return upon the existing net capitalization is modest enough. It is certainly not more than fair in amount. That it does not exceed 5 per cent. at the present time seems to be well established. The withdrawal of capitalization from the centre of the political stage in favor of physical valuation as a positive scientific standard of measurement, is matter for congratulation on all sides.

The settled legal standard of rate reasonableness, sole and controlling in the lower courts and predominant although still embryonic in the Supreme Court, according to the preceding chapter, being present value, that is to say, "value at the time it is being used for the public," is it too late to suggest any revision of our ideas upon the subject? Congress, as we have already seen, has wisely directed that the valuation now under way shall include all possible data, historic as well as instant. It has thus provided for the contingency of a shift of base by the courts. May we not also contribute to this end by reviewing one by one the several standards from a purely economic standpoint? For unless economics and law are in entire accord, experience proves that real progress may not be anticipated. For the purpose of this economic analysis, four distinct bases of rate reasonableness will be examined. These, owing to the interblending of fair returns and fair worth of property, correspond to four schemes of physical valuation. They are:

[1] P. 79 *supra.*

1. Original or actual cost.
2. Reproduction cost, new.
3. Present value — replacement cost, less depreciation.
4. Market value, based upon earning power.

Actual cost of property,[1] that is to say original construction, plus additions and betterments, despite its insecure legal footing, seems to be not only the most natural but in many respects the fairest single basis for the determination of reasonableness of rates. It has been neglected in part because of the inchoate condition of accounting principles and practice, and in part because of misunderstanding by laymen of such sound distinctions between capital and income as were well recognized among experts. Great confusion is everywhere apparent as to what the term implies. "Book value" or cost of property, as we have already seen, seldom represents anything even approximating to the facts. The meagreness of corporate records, either because of carelessness or bad faith,[2] is indeed a severely practical objection; and yet experience has already shown that original cost can be unearthed. The most substantial attempt along this line is the inventory made by the Washington Railroad Commission in 1905. The actual investment was found to be obtainable for practically all of the property. How different this was from the accepted legal standard

[1] This is practically the "continuous property" or Antigo theory of Wisconsin, 3 Wisconsin R. C. Rep., p. 623; the historical method under the principal and agent theory of regulation of J. H. Gray, *American Economic Review*, vol. IV, supp. 1914, pp. 26 and 51, and of E. W. Bemis, Proceedings National Association Railway Commissioners, 1913; of normal actual cost of Whitten, Valuation, etc., pp. 82–101, and Supp. pp. 825, 916, and also *Harvard Law Review*, vol. XXVII, pp. 5–23; and of the St Louis Public Service Commission and that of New Hampshire, *Quarterly Journal of Economics*, vol. XXVIII, 1914, p. 271. It is not the so-called original cost theory of the engineers; Hayes, Public Utilities, 1913, and *Quarterly Journal of Economics*, vol. XXVII, 1913, pp. 616–629; or Allison, *idem*, vol. XXVII, 1912, p. 30; who merely mean original cost of *existing* units of property, not actual outlay considered historically.

[2] *Cf. Railway Age Gazette*, 1909, p. 220; and, for example, Sixth Annual Report, Nebraska Railroad Commission, 1913, p. 201; also 31 Interstate Commerce Commission Reports, p. 365.

of fair present value appears from this data. The original cost of the Northern Pacific plus improvements was appraised at $75,500,000, as against a cost of reproduction, new, of $103,600,000. Much of this difference was due to the appreciation in land values, particularly of terminal properties. But whether or not the substitution of this standard of actual cost for the one generally sanctioned by the courts will inure to the advantage of the carriers is of course quite immaterial,[1] depending probably, as in this case, upon the basis of valuation applied to real estate. The predilection of the law for present value, without distinction as to land, even to the absurd extent of holding original cost to be "totally irrelevant,"[2] flows, as we have already seen, from the long-standing legal practice. The tendency to break away from this tradition and to regard donated lands, or lands whose market value has arisen from the growth of the community, differently, is of comparatively recent date. It cannot be denied that the original-cost theory possesses strong attractions for those who hold that the public as a whole, and not individual members of it, should profit by the unearned increment in land.[3]

A number of details have to be carefully analyzed prior to the acceptance of original cost as the foundation for valuation. Heavy outlays experimentally, that is to say what are called development costs, are apt to be swallowed up in the accounts with the lapse of time.[4] This is particularly true of destruction or abandonment by act of God or man.[5] The recently constructed San Pedro, Los Angeles & Salt Lake was, for example,

[1] Sometimes it works the other way, as in Texas, 1894, with original cost $40,000,000 and replacement cost only $25,000,000. This will depend also upon the movement of prices for commodities in general.

[2] *Columbia Law Review*, November, 1913, reprint p. 7.

[3] See p. 351, *infra*, on treatment of land values.

[4] On the different methods of treating development experience, *vide* p. 288, *supra*.

[5] Functional depreciation, etc., *cf.* p. 234, *supra*. See also Statistics of Railways, Interstate Commerce Commission Reports, 1907, and Whitten, Valuation, p. 37.

washed out three times by floods, each time being rebuilt at great expense, in the search for a really safe location. Great difficulty in theory arises also from past expenditures, probably capitalized, as a result of incompetence, recklessness and dishonesty.[1] One must surely reckon with certain risks; but the public can scarcely be expected to pay returns upon a basis comprehensive enough to include much of this sort of expense. It is equally difficult to reckon with a too provident administration of the property. Considerations suggested in the second San Diego Land case [2] are equally applicable to railroads which have intrenched themselves against all future demands for service by an investment greatly in excess of the needs of the present time. The American people seem destined to pay carrying charges to the Reading Company on indebtedness incurred in order to monopolize our anthracite coal supplies forever; but this exceptional case certainly need not be duplicated with other properties concerned solely with transportation. After reckoning with the foregoing factors, none of them more difficult, theoretically, than those attached to the other standards of valuation, there is the great advantage inherent in actual or original cost that it eliminates or minimizes, through compensation, the changes of valuation arising from fluctuations in the level of prices in general.[3] During the generation to 1900, the steady fall in commodity prices worked disadvantageously to the railroads in any appraisal of property. The greater the fall in unit costs, the narrower the basis upon which they might claim a return in rates. After that time the equally marked enhancement of prices enabled them by means of an up-to-date inventory to justify heavier charges for service rendered. In either case, so far as property long ago acquired is concerned, this change in the rate basis was merely fortuitous, totally disconnected with the matter

[1] "Teazers," for example, in the Texas experience; Ripley, Railway Problems (rev. ed.), p. 337.

[2] P. 320, *supra*.

[3] *Cf.* the Steenerson case, *cit. sup.*

in hand. It would certainly appear more equitable that the rights and obligations of the companies should rest upon the amount of the investment honestly and fairly, that is to say, "actually created and placed in the public service."[1] Should not this theoretical advantage go far to offset the practical difficulties which are so largely responsible for the neglect of this standard of reasonableness? Massachusetts, moreover, whatever the defects of its anti-stock-watering policy, has avoided this difficulty by its insistence that capitalization shall strictly conform to actual investment. Thereafter its course is plain. For under such a policy, pursued from the outset, the basis of reasonable rates is plainly recorded in the volume of securities outstanding. The accounts are automatically kept up to date.[2]

One warning concerning actual cost needs to be displayed at this point. A number of elements of value, soon to be discussed, notably costs of development, may find place either in a scheme based upon original investment, or as intangibles under a plan based upon reproduction cost. They should not be twice included; neither should they appear both in the valuation basis and in the rate of return allowed. The choice of original cost as a basis, automatically takes care of a number of elements which under other plans deserve inclusion as "remaining property."[3] Moreover, even the appearance of a guarantee of the investment by the public must be scrupulously avoided. Permitting the capitalization of early deficits or losses by a subsequent replacement policy may all too readily bring about this result. With these qualifications in mind, cordial assent may be given to the able opinion of the Inter-

[1] St. Louis Public Service Commission, 1912; report on the United Railways Company.

[2] Admirably stated in the Middlesex & Boston Rate case; P.S.C., Mass., 1914, no. 553, p. 9 ff.

[3] *Cf.* Whitten, Valuation, pp. 566 and 708. And then, too, an allowance for going value or developmental costs must reckon with the capitalization of these in the hands of later owners as distinct from those who assumed the original risks.

state Commerce Commission in the Western Rate Advance case of 1911.[1]

"Perhaps the nearest approximation to a fair standard is that of *bona fide* investment — the sacrifice made by the owners of the property — considering as part of the investment any shortage of return that there may be in the early years of the enterprise. Upon this, taking the life history of the road through a number of years, its promoters are entitled to a reasonable return. This, however, is manifestly limited; for a return should not be given upon wastefulness, mismanagement, or poor judgment, and always there is present the restriction that no more than a reasonable rate shall be charged."

The treatment of land values most sharply differentiates actual from replacement cost as a standard of valuation. Real estate appraisals are peculiarly important for railroads, such property not infrequently aggregating as much as one-fourth of its entire possessions. Among concrete instances of the prominence of real-estate values, that of the Illinois Central well serves to illustrate the rôle of the unearned increment of land in railroad finance. Carried at only $200,000 on the books — such being the original entry — the real estate of the Illinois Central was appraised at $34,000,000 in 1900. Now land, thus forming so large a proportion of assets, is set off from other forms of property by three characteristics. In the first place, with the growth of population it commonly tends to appreciate steadily in value. Most other property declines in value with the passage of time. Secondly, for the United States in particular, much of the railroad land has been donated by the public in aid of construction. But thirdly, it should be noted, such land as has been purchased even under exercise of the right of eminent domain has actually cost in most instances anywhere from one and one-half to ten times as much as ordinary real estate on the average in the same environment. From these circumstances arise a number of puzzling questions. Should the unearned increment be included in physical valua-

[1] 20 Interstate Commerce Commission Report, 307. *Cf.* also the Minnesota Rate cases; Ripley, Railway Problems (rev. ed.), p. 699.

tion or not? Ought public land grants to be excluded from such appraisal? Is a distinction between lands now in use and those held for investment or future development called for by sound public policy? Shall real estate, if appraised at present value, take cognizance of the extra cost to the carriers by reason of severance or other damages? Space will not permit of adequate treatment of these significant economic and ethical questions; but certain tendencies may be noted.

Two opposing bodies of opinion respecting land values are discernible. One maintains that railways as common carriers in the enjoyment of valuable privileges are not entitled to the unearned increment, not even for land actually purchased, much less when donated outright. Original cost is upheld as the only proper basis for appraisal, in the belief that any departure from such a policy would result in steadily increasing rate burdens, arising largely from the activities and even the very generosity of the public itself. Such is the theory of the radical legislator and of some economists.[1] The opposite view is that, inasmuch as all lands are held under recognized proprietary rights, a return upon their full commercial worth is as justifiable for land as for any other form of possession, the state making no distinction as respects either taxation or rates for service. This latter opinion is commonly buttressed by judicial decisions.[2] It is the time-honored practice of the law.

Probably the most detailed consideration of land appraisal is given in the Minnesota Rate cases of 1913 by the Supreme Court of the United States. It was there ruled that the present value of land, and not its actual or original cost, was to be the basis of appraisal for rate-making. Not even the qualification

[1] Senator La Follette of Wisconsin, J. H. Gray, *cit. sup.*

[2] Notable ones are the New York 80-Cent Gas case (*Willcox* v. *Consolidated Gas Company*, 212 U. S. 19; and the Minnesota Rate cases). Whitten, Valuation, etc., chap. VI; Michigan, Washington, Wisconsin, Nebraska and South Dakota all recognize it administratively through their expert commissions.

suggested in *Willcox* v. *Consolidated Gas Company* was repeated, whereby an excessive increment of land values was to constitute an exception to the general rule.[1] But there was express disapproval of the use of "multipliers" as used for real-estate appraisal. It was held that a "public utility factor," assigning a special worth to a right of way as used for transportation, resulted in giving the carrier more than its share of the increment of land values — thus being against public policy.[2] Whether the Supreme Court made this concession because of insufficient evidence presented by the railways, or because it was believed to be fundamentally sound reasoning, we need not stop to consider. In effect this decision is in line with tendencies in the different states. The New Jersey valuation was peculiarly hampered by an old statute which forbade any special appraisal of land according to use; but the commission indirectly recognized such a special worth by its allowance for intangibles. The practice of the New York commissions is peculiarly instructive, as affording recognition of the rights of both parties, while still in effect limiting the almost inevitable appreciation of assets with the growth of the community. This result is obtained by indirection through the treatment of appreciation as capital, rather than as income. It is required to be entered on the accounts, periodically, as profit. All depreciation is likewise charged against income as a loss. It would seem to have been more logical and direct to have held to original cost, but for some reason this was not done.[3]

[1] P. 321, *supra*. The suggested substitution for present land value of the worth of other land equally serviceable for the public also failed of consideration.

[2] The significance of multipliers is well shown in the Nebraska reports which give two complete sets of returns, with or without multipliers respectively. Most states allow anywhere from two to three times the average taxable value of surrounding real estate. *Cf.* table, p. 341, *supra*.

[3] The following excerpt from Whitten, Valuation, p. 121, describes the practice:

"Thus, land has been taken at its fair value and not at its original cost, and the annual appreciation of land has been treated as a profit. By this method, all property is treated absolutely alike, as Judge Hough sug-

Another way of conceding the public's interest would be to fix a lower maximum in the rate of return allowed upon land values than upon other forms of property, making the distinction in the rate rather than the principal. Some qualification is certainly necessary, especially for undeveloped possessions. Washington omitted $15,000,000 outright for unused land holdings; and Nebraska ignored one-half of its railway lands, thus held. However accomplished, the rôle of land values in rate-making, if not eliminated, ought certainly to be minimized. Neither the ups nor downs of real estate have any connection with the conduct of the transportation business. An element of uncertainty is introduced, sometimes, as in Wisconsin, for consistency's sake by requiring a reduction of public utility rates because of a decrease in land values. The only fair criterion should be the actual investment or sacrifice on the part of the owners of the enterprise. Emphasis laid upon extraneous and fortuitous factors, as at present, is at once illogical and contrary to the public welfare.

Cost of reproduction, new,[1] as a basis for rate adjudication, is identical at the outset of the enterprise with actual or original investment. The two standards separate with the lapse of time, extraneous elements such as changes of price level ob-

gests. No difference is made, except that as depreciation represents a decrease in assets, it is placed as a *debit* against operation, while appreciation is placed as *credit* because it is an increase in assets. Land has sometimes been treated like other property only to a degree; that is, each class has been appraised at its present worth or value. That has been done in this case. But if property is to be taken at its *depreciated* value where it has depreciated, an entry must regularly be made in estimated operating expenses equal to the average annual depreciation. Conversely, if land, or any other property which genuinely appreciates in value, is to be taken at its *appreciated* value, then an entry must be made in the estimated receipts equal to the average annual appreciation. Unless this is done, it is obvious that the consumer will be burdened with all the estimated decreases in assets but not credited with the increases in assets. If the principle laid down by the courts is to be followed in part, it should be followed in whole."

[1] *Cf. Quarterly Journal of Economics*, vol. XXVII, 1912, p. 37; *idem*, vol. XXVIII, 1913, p. 616; Whitten, Valuation, chap. IV; and Supp. p. 829; Proceedings American Society Civil Engineers, September and October, 1913.

truding themselves. The fundamental objection to this standard is best stated in the two most striking applications made of it by the authorities of Minnesota in 1897 and 1911 respectively. The facts of the first case[1] were briefly as follows. The original lines of the Great Northern Railway were sold under foreclosure in 1879 at a price far below the real value. A new company operated the properties until 1890, when they were all leased to the present corporation upon guarantees of interest and dividends. The Supreme Court of Minnesota, on appeal proceedings, declined to consider either the purchase price under foreclosure or the effect of subsequent financing; and decided that reasonable rates were to be determined "by ascertaining what, under all the circumstances, is a reasonable income on the cost of reproducing the road at the present time." An official inquiry thereupon established the cost of replacement as well as the rate of return to be allowed. This proceeding took place in the trough of the industrial depression of 1897. Fourteen years later, at almost the crest of a wave of prosperity, the same operation was repeated with a revised standard of reproduction cost, new, based upon values in 1911.[2] It is not exaggerating to assert that the replacement costs, new, for each of these two dates fourteen years apart, differed absolutely by almost one-third. Unfortunately, the Supreme Court of the United States in the Minnesota Rate cases, although expressly disallowing replacement cost for real estate, did not extend its opinion to review the principle as applied to other forms of property. But it repeatedly indulged in the phrases "mere conjecture" and "mere speculation" as applied to the matter in hand. The following is quoted from the opinion of the court:[3]

"Moreover, it is manifest that an attempt to estimate what would be the actual cost of acquiring the right of way if the railroad were not

[1] *Steenerson* v. *Great Northern Railway Company*, 72 N. W., 713.
[2] The Minnesota Rate cases, *Shepard* v. *Northern Pacific, cit. sup.*, 184 Fed., 765.
[3] Reprint in Ripley, Railway Problems (rev. ed.), p. 697.

there is to indulge in mere speculation. The railroad has long been established; to it have been linked the activities of agriculture, industry and trade. Communities have long been dependent upon its service, and their growth and development have been conditioned upon the facilities it has provided. The uses of property in the communities which it serves are to a large degree determined by it. The values of property along its line largely depend upon its existence. It is an integral part of the communal life. The assumption of its nonexistence, and at the same time that the values that rest upon it remain unchanged, is impossible and cannot be entertained."

A quotation from economic sources fits in well at this point.[1]

"The 'reproduction theory' contemplates an imaginary community in which an imaginary corporation makes imaginary estimates of the cost of an imaginary railroad. . . . The actual, efficient sacrifice of the investor, as revealed in accounting and other historical studies, supplemented by engineering advice as to the adaptability and present condition of properties for the purpose intended, will count far more than the estimates of engineers as to what it will cost to buy land that will never be bought again, to duplicate property that will never have to be duplicated, and to build up a business that will never again have to be developed."

After the respectable interment of the unadulterated doctrine of reproduction, new, by the Supreme Court of the United States, the persistent advocacy of this interpretation of "fair value," elsewhere, is the only excuse for our further attention to it.[2] It still exercises an undue influence upon men's minds, tending constantly to become the sole or controlling standard. The fundamental economic objections are its instability and utter lack of relation to the real sacrifice made by investors in creating the property. It may not, however, be consigned to the limbo of rejected doctrines without citing an ingenious economic defence.[3] This is to the

[1] E. W. Bemis, Proceedings National Association Railway Commissioners, 1913.

[2] Whitten, Valuation, chap. XVIII, gives decisions of lower courts and commissions.

[3] J. E. Allison in reports to the St. Louis Public Service Commission, 1912 and 1913; and *Quarterly Journal of Economics*, vol. XXVII, 1912, p. 27; as also *idem*, vol. XXVIII, 1914, pp. 630–662, and Whitten, Valua-

effect that the essential feature of valuation is the reproduction, not of the property but of the service rendered. All physical units except land having a definite life term, waste and wear year by year up to a certain point, say 50 per cent. of the first cost. After this point, if currently maintained, no further depreciation takes place. Such, it is alleged, becomes the status of most physical property after a few years of operation. And yet the plant under this "normal average depreciation" may for all practical purposes serve the public just as well as an entirely new one. A corporation, therefore, having taken care of its depreciation up to this point, midway between brand-newness and utter decrepitude, by the establishment of equivalent reserves, should be allowed reasonable returns upon the sum of these reserves and the existing structural value. In other words, the property is virtually as good as new and is entitled to fair returns upon what it would cost to replace it outright. This interesting argument is defective, if at all, in failing to dovetail into sound accounting practice in the matters of surplus, sinking funds and replacement. It has relatively less significance for railroads than for other public service companies, particularly because the element of real estate, owned in fee and not merely enjoyed in use, dwarfs everything else by reason of its magnitude. And it contains dangerous, misleading implications in view of the rapid rate of obsolescence under modern progressive conditions.[1] Is it not more prudent to proceed upon the assumption that the entire original investment remains locked up in the enterprise? This means a rigid prescription of the amount of current return and an enforcement of the financial plan of an accumulation of reserves sufficient to replace the property new when, as is bound to be the case sometime despite the fullest maintenance of the quality of service upon the partly used-up plant, every-

tion, etc., supp. p. 1119. *Cf.* Floy, Valuation, 1912; and *Railway Age Gazette*, vol. LIV, 1913, p. 1535.

[1] P. 234, *supra:* Also *Quarterly Journal of Economics*, February, 1915.

thing goes to pieces suddenly like the collapse of the one-horse shay.

Present value, the third of our feasible standards, differs from replacement cost, new; first, in the deduction of an allowance for the wear and tear of the plant from use, natural decay and deterioration under the action of the elements; and secondly, through such appreciation in value as may arise from trying out of the plant or its adjustment of parts — called by engineers adaptation or solidification.[1] The importance of the second factor is less generally appreciated than of that associated with age and wear. A railroad always passes through an initial period subsequent to actual construction, when numerous imperfections come to light and many readjustments have to be made. Current outlay is consequently heavier than under normal maintenance. Whether such expenditures are properly chargeable to construction or operation is, perhaps, debatable; but, however it may be treated in the accounts, it is obvious that with the passage of time a positive value has been added to the property. Although by no means inconsiderable, these plus factors will probably seldom offset the minus ones due to depreciation. The Supreme Court of the United States in its latest discussion of reasonableness in the Minnesota Rate case, distinctly declined to approve of such disposition of the matter, declaring that the precise extent of existing depreciation should be shown and deducted, as otherwise the physical valuation would be "manifestly incomplete."[2] It would take us too far afield to attempt a review of technical matters of this sort. The practice of the state commissions has generally been to make a deduc-

[1] The best treatment of these subjects, with a very complete bibliography, is in Whitten's Valuation, chaps. XV, XVI and XVII.

[2] Reprint in Ripley, Railway Problems (rev. ed.), p. 702. *Cf.* also *Columbia Law Review*, June, 1911. The Massachusetts Validation Report of 1910 accepted a 100 per cent. valuation, appreciation offsetting depreciation.

tion for depreciation.[1] The other factors have been variously handled. Washington is most liberal. Michigan and Wisconsin deduct for depreciation, but allow nothing for appreciation. And those commissions which make such allowances apply them, of course, in the greatest detail to the different units of property.

Other factors of minor importance demand consideration in the determination of present value. Unit costs should certainly not be too narrowly limited to a particular time, but should be based upon a fair normal average — disregarding, it is assumed, our foregoing plea that the original unit costs are the only fair standards anyhow. Qualification must also be made for piecemeal construction. The gradual creation of an efficient agency of transportation, bit by bit, may be quite a different matter from the theoretical construction of an entire railroad as a single unified job; particularly when, as commonly happens, most new work is confined to periods of prosperity when funds are obtainable, but when also, unfortunately, wages and prices are abnormally high. There are other puzzling details, such as allowance for working capital in its relation to credit. And a large group of values, usually bulked together as development expenses, hangs in the offing. These last more properly require discussion under the head of intangibles and will be so treated. Finally, the fixing of present value raises a number of very important questions, more weighty for railroads than for most other public utilities, connected with the ascertainment of land values. These have already been touched upon. All in all, the determination of the worth of property at the time of its use is feasible enough as a matter of engineering. Whether as a matter of economics it is sound is quite a different question.[2]

[1] *Quarterly Journal of Economics*, vol. XXVIII, 1914, p. 656. *Cf.* also Whitten, Valuation.

[2] Compare the wholesale condemnation of all reproduction theories in *American Economic Review*, vol. IV, supp. 1914, p. 27.

Twenty years ago *market or commercial value*, conditioned of course by earning power, was generally regarded as an all-important element in fixing fair rates. But although many railroad men and an occasional judge still uphold its validity,[1] it is discountenanced by the best progressive opinion. As Whitten well says:

"Market value has nothing to do with the rate question as thus considered. It is only set up after the rates are in fact determined. To be sure, the theory is that rates are based on a fair return on the market value of the road under reasonable rates. The impossibility of basing reasonable rates on a market value that is itself determined by reasonable rates is apparent. It is a clear case of reasoning in a circle. We have the evident absurdity of requiring the answer to the problem before we can undertake its solution. The advocates of the market-value theory cannot really mean what they say. Market value is not really a part of the process but the final result."

The same argument is made in a recent judicial decision.[2]

"It is one of the most mischievous and yet persistent fallacies, that the value of a property determines the prices which can be charged for the use of it. The precise opposite is the truth — the value of the property is determined by the price that can be charged for the use of it. It is not because an orchard is valuable that it yields apples. On the contrary, it is because it yields apples that it is valuable. To say that the reasonableness of rates depends upon the fair value of the property used and that the fair value of the property used depends upon the rates which may be reasonably charged, seems to be arguing in a circle."

This circle argument is constantly cropping up. It has been wielded for years against physical valuation of any sort. And, as applied by the Washington Railroad Commission in fixing rates, it certainly seems highly illogical if not absurd, except possibly for misplaced or partially obsolete roads.[3] But it is submitted that this need not necessarily be so. All depends

[1] *Cf.* my quotations as early as 1907 in *Political Science Quarterly*, vol. XXII, p. 604.

[2] *Brunswick and T. Water District* v. *Maine Water Company*, 59 Atl., 537.

[3] Second and Third Annual Reports, 1907–'08; Proceedings National Association Railway Commissioners, 1911, p. 148.

upon whether the business is carried on under conditions of monopoly or of competition. In ordinary business, earnings determine valuation; but as railroads are operated nowadays, or at all events should be, under a firmly-established theory of regulated monopoly, the relationship is reversed. It is not earnings which determine value, but valuation which fixes earning power. The difference is in the starting point of the reasoning. This is only another way of saying that a reasonable rate of charge for a railroad is one of the results and not the cause of the fair value of the property employed.[1]

The proper function of market valuation, viewed in another way, is to set off the intangible elements in fair value from the purely physical ones. No one denies that commercial value depends in large measure upon the present or future income-producing capacity of property; and, furthermore, that it is the use made of this property and neither its original cost nor its present cost of reproduction that fixes its present worth. Governmental valuation seeks not to find the total value at all, but to discover what part of it is represented by real property and what part by intangible assets. Merely to make use of the total value, as dependent upon net income, as a basis for regulation would, of course, involve reasoning in the old vicious circle. Once we admit evidence as to total market value, Münchausen-like, we are trying to lift ourselves by our bootstraps. But that is not the present proposition in any sense. The aim is to differentiate in the total worth between two distinct sources of value: one, the actual investment in physical plant to be credited to stockholders; the other, the intangible value, some part of which belongs by right to the public while other parts remain essentially the reward of private initiative. So long as these franchise gifts were of doubtful value, the people were willing to permit all profit upon them, if there were such, to accrue to the private owners of the shares; but as soon

[1] Admirably reasoned by Justice Swayze in the Paterson, N. J., Gas Company case, 87 Atl. Rep. 651. *Cf.* footnote, p. 370, *infra*.

as that stage of development was passed, the public insisted upon its right to some part of the advantage. In brief, the demand for valuation registers a protest on behalf of the public against paying returns indiscriminately to private stockholders upon values, a part of which the public itself may have created and granted to the corporations. It is the emergence of such values due to the growth of the country, over and above the capital investment values, which accounts for the extraordinary interest and activity of the legislatures, courts and commissions in this work all over the country.[1]

Recognition of an intangible value as property, over and above the mere physical plant, — characterized by William H. Taft in accepting the nomination for the presidency as "full value" — has been accorded by the practice of several states. The exact nature of this surplus value we shall have occasion to consider elsewhere, merely noting once more that it is based upon earning power or income. In other words, after the payment of a normal return on a fair value of the actual property, the excess earnings are capitalized in order to set an additional value upon the concern. A concrete example may serve to make this clear. Let us suppose that a railroad possessing physical property worth $10,000,000 is earning at the rate of $1,200,000 net a year. Five per cent. on the $10,000,000 of actual property, or $500,000, therefore represents the interest return on capital. But there still remains $700,000 of the annual income to be distributed. This would pay 7 per cent. upon $10,000,000 more of capitalization — a rate of return none too high, perhaps, considering its contingent and fluctuating character. The surplus earning power over and above the normal return on the actual property, thus capitalized at $10,000,000, is the value of the "non-physical" property. It is this excess which is termed intangible value or, as it is

[1] Further discussion of this side of the case by the author in *Political Science Quarterly*, vol. XXII, 1907, p. 606 ff., is essential to a complete understanding of the subject. It is omitted in order to avoid repetition.

defined in New Jersey, "the value of the remaining property." Michigan in 1900 under the leadership of Professor Henry C. Adams, was a pioneer in this field.[1] Estimated in general upon the above plan, the intangible value of the railroads in that state in 1900 amounted to $35,800,000, or 19 per cent. of a total worth, comprising both physical plant and intangibles, of $203,000,000 for the railroad net as a whole. Washington in 1905 gave special attention to everything affecting both density of traffic, that is to say earnings on one side and operating expenses on the other, as distinct from the bare bones of the plant.[2] The results, so far as one can decipher them, indicate an intangible value on the whole about offsetting depreciation; so that the market value of the properties, which was sought, approximately equalled their reproduction cost, new. As for the individual roads, the intangible value varied greatly, from an excess above reproduction cost of 20 per cent. for the Oregon Railway and Navigation Company, to 1 per cent. for the Northern Pacific. For smaller roads dependent for future business upon partly depleted forests, the market value over and above physical property was necessarily nil. New Jersey found the value of the "remaining property" of its carriers in 1909–'11 to be about $76,000,000, that is to say, about 20 per cent. of the present physical worth.[3] Here again, as in Washington, capitalized earning power varied greatly as between different roads, from 11 per cent. on the Erie to 31 per cent. on the Reading. And here again, also, one notes an agreement with both Michigan and Washington, in a practical equivalence between depreciation and intangible value, the one just about offsetting the other. The foregoing figures indicate intangible values reflecting earning power, that is to say market

[1] See his testimony before the United States Industrial Commission, 1900, vol. IX, p. 373; United States Census Bulletin, no. 21 on Commercial Valuation, 1904, p. 79. The Cleveland street railway settlement by arbitration in 1909 was somewhat similar.

[2] *Journal of Political Economy*, vol. XXI, 1913, p. 332.

[3] Table, p. 345, *supra*.

Another way of conceding the public's interest would be to fix a lower maximum in the rate of return allowed upon land values than upon other forms of property, making the distinction in the rate rather than the principal. Some qualification is certainly necessary, especially for undeveloped possessions. Washington omitted $15,000,000 outright for unused land holdings; and Nebraska ignored one-half of its railway lands, thus held. However accomplished, the rôle of land values in rate-making, if not eliminated, ought certainly to be minimized. Neither the ups nor downs of real estate have any connection with the conduct of the transportation business. An element of uncertainty is introduced, sometimes, as in Wisconsin, for consistency's sake by requiring a reduction of public utility rates because of a decrease in land values. The only fair criterion should be the actual investment or sacrifice on the part of the owners of the enterprise. Emphasis laid upon extraneous and fortuitous factors, as at present, is at once illogical and contrary to the public welfare.

Cost of reproduction, new,[1] as a basis for rate adjudication, is identical at the outset of the enterprise with actual or original investment. The two standards separate with the lapse of time, extraneous elements such as changes of price level ob-

gests. No difference is made, except that as depreciation represents a decrease in assets, it is placed as a *debit* against operation, while appreciation is placed as *credit* because it is an increase in assets. Land has sometimes been treated like other property only to a degree; that is, each class has been appraised at its present worth or value. That has been done in this case. But if property is to be taken at its *depreciated* value where it has depreciated, an entry must regularly be made in estimated operating expenses equal to the average annual depreciation. Conversely, if land, or any other property which genuinely appreciates in value, is to be taken at its *appreciated* value, then an entry must be made in the estimated receipts equal to the average annual appreciation. Unless this is done, it is obvious that the consumer will be burdened with all the estimated decreases in assets but not credited with the increases in assets. If the principle laid down by the courts is to be followed in part, it should be followed in whole."

[1] *Cf. Quarterly Journal of Economics*, vol. XXVII, 1912, p. 37; *idem*, vol. XXVIII, 1913, p. 616; Whitten, Valuation, chap. IV; and Supp. p. 829; Proceedings American Society Civil Engineers, September and October, 1913.

truding themselves. The fundamental objection to this standard is best stated in the two most striking applications made of it by the authorities of Minnesota in 1897 and 1911 respectively. The facts of the first case[1] were briefly as follows. The original lines of the Great Northern Railway were sold under foreclosure in 1879 at a price far below the real value. A new company operated the properties until 1890, when they were all leased to the present corporation upon guarantees of interest and dividends. The Supreme Court of Minnesota, on appeal proceedings, declined to consider either the purchase price under foreclosure or the effect of subsequent financing; and decided that reasonable rates were to be determined "by ascertaining what, under all the circumstances, is a reasonable income on the cost of reproducing the road at the present time." An official inquiry thereupon established the cost of replacement as well as the rate of return to be allowed. This proceeding took place in the trough of the industrial depression of 1897. Fourteen years later, at almost the crest of a wave of prosperity, the same operation was repeated with a revised standard of reproduction cost, new, based upon values in 1911.[2] It is not exaggerating to assert that the replacement costs, new, for each of these two dates fourteen years apart, differed absolutely by almost one-third. Unfortunately, the Supreme Court of the United States in the Minnesota Rate cases, although expressly disallowing replacement cost for real estate, did not extend its opinion to review the principle as applied to other forms of property. But it repeatedly indulged in the phrases "mere conjecture" and "mere speculation" as applied to the matter in hand. The following is quoted from the opinion of the court:[3]

"Moreover, it is manifest that an attempt to estimate what would be the actual cost of acquiring the right of way if the railroad were not

[1] *Steenerson* v. *Great Northern Railway Company*, 72 N. W., 713.

[2] The Minnesota Rate cases, *Shepard* v. *Northern Pacific*, *cit. sup.*, 184 Fed., 765.

[3] Reprint in Ripley, Railway Problems (rev. ed.), p. 697.

there is to indulge in mere speculation. The railroad has long been established; to it have been linked the activities of agriculture, industry and trade. Communities have long been dependent upon its service, and their growth and development have been conditioned upon the facilities it has provided. The uses of property in the communities which it serves are to a large degree determined by it. The values of property along its line largely depend upon its existence. It is an integral part of the communal life. The assumption of its non-existence, and at the same time that the values that rest upon it remain unchanged, is impossible and cannot be entertained."

A quotation from economic sources fits in well at this point.[1]

"The 'reproduction theory' contemplates an imaginary community in which an imaginary corporation makes imaginary estimates of the cost of an imaginary railroad. . . . The actual, efficient sacrifice of the investor, as revealed in accounting and other historical studies, supplemented by engineering advice as to the adaptability and present condition of properties for the purpose intended, will count far more than the estimates of engineers as to what it will cost to buy land that will never be bought again, to duplicate property that will never have to be duplicated, and to build up a business that will never again have to be developed."

After the respectable interment of the unadulterated doctrine of reproduction, new, by the Supreme Court of the United States, the persistent advocacy of this interpretation of "fair value," elsewhere, is the only excuse for our further attention to it.[2] It still exercises an undue influence upon men's minds, tending constantly to become the sole or controlling standard. The fundamental economic objections are its instability and utter lack of relation to the real sacrifice made by investors in creating the property. It may not, however, be consigned to the limbo of rejected doctrines without citing an ingenious economic defence.[3] This is to the

[1] E. W. Bemis, Proceedings National Association Railway Commissioners, 1913.

[2] Whitten, Valuation, chap. XVIII, gives decisions of lower courts and commissions.

[3] J. E. Allison in reports to the St. Louis Public Service Commission, 1912 and 1913; and *Quarterly Journal of Economics*, vol. XXVII, 1912, p. 27; as also *idem*, vol. XXVIII, 1914, pp. 630–662, and Whitten, Valua-

effect that the essential feature of valuation is the reproduction, not of the property but of the service rendered. All physical units except land having a definite life term, waste and wear year by year up to a certain point, say 50 per cent. of the first cost. After this point, if currently maintained, no further depreciation takes place. Such, it is alleged, becomes the status of most physical property after a few years of operation. And yet the plant under this "normal average depreciation" may for all practical purposes serve the public just as well as an entirely new one. A corporation, therefore, having taken care of its depreciation up to this point, midway between brand-newness and utter decrepitude, by the establishment of equivalent reserves, should be allowed reasonable returns upon the sum of these reserves and the existing structural value. In other words, the property is virtually as good as new and is entitled to fair returns upon what it would cost to replace it outright. This interesting argument is defective, if at all, in failing to dovetail into sound accounting practice in the matters of surplus, sinking funds and replacement. It has relatively less significance for railroads than for other public service companies, particularly because the element of real estate, owned in fee and not merely enjoyed in use, dwarfs everything else by reason of its magnitude. And it contains dangerous, misleading implications in view of the rapid rate of obsolescence under modern progressive conditions.[1] Is it not more prudent to proceed upon the assumption that the entire original investment remains locked up in the enterprise? This means a rigid prescription of the amount of current return and an enforcement of the financial plan of an accumulation of reserves sufficient to replace the property new when, as is bound to be the case sometime despite the fullest maintenance of the quality of service upon the partly used-up plant, every-

tion, etc., supp. p. 1119. *Cf.* Floy, Valuation, 1912; and *Railway Age Gazette*, vol. LIV, 1913, p. 1535.

[1] P. 234, *supra:* Also *Quarterly Journal of Economics*, February, 1915.

thing goes to pieces suddenly like the collapse of the one-horse shay.

Present value, the third of our feasible standards, differs from replacement cost, new; first, in the deduction of an allowance for the wear and tear of the plant from use, natural decay and deterioration under the action of the elements; and secondly, through such appreciation in value as may arise from trying out of the plant or its adjustment of parts — called by engineers adaptation or solidification.[1] The importance of the second factor is less generally appreciated than of that associated with age and wear. A railroad always passes through an initial period subsequent to actual construction, when numerous imperfections come to light and many readjustments have to be made. Current outlay is consequently heavier than under normal maintenance. Whether such expenditures are properly chargeable to construction or operation is, perhaps, debatable; but, however it may be treated in the accounts, it is obvious that with the passage of time a positive value has been added to the property. Although by no means inconsiderable, these plus factors will probably seldom offset the minus ones due to depreciation. The Supreme Court of the United States in its latest discussion of reasonableness in the Minnesota Rate case, distinctly declined to approve of such disposition of the matter, declaring that the precise extent of existing depreciation should be shown and deducted, as otherwise the physical valuation would be "manifestly incomplete."[2] It would take us too far afield to attempt a review of technical matters of this sort. The practice of the state commissions has generally been to make a deduc-

[1] The best treatment of these subjects, with a very complete bibliography, is in Whitten's Valuation, chaps. XV, XVI and XVII.

[2] Reprint in Ripley, Railway Problems (rev. ed.), p. 702. *Cf.* also *Columbia Law Review*, June, 1911. The Massachusetts Validation Report of 1910 accepted a 100 per cent. valuation, appreciation offsetting depreciation.

tion for depreciation.[1] The other factors have been variously handled. Washington is most liberal. Michigan and Wisconsin deduct for depreciation, but allow nothing for appreciation. And those commissions which make such allowances apply them, of course, in the greatest detail to the different units of property.

Other factors of minor importance demand consideration in the determination of present value. Unit costs should certainly not be too narrowly limited to a particular time, but should be based upon a fair normal average — disregarding, it is assumed, our foregoing plea that the original unit costs are the only fair standards anyhow. Qualification must also be made for piecemeal construction. The gradual creation of an efficient agency of transportation, bit by bit, may be quite a different matter from the theoretical construction of an entire railroad as a single unified job; particularly when, as commonly happens, most new work is confined to periods of prosperity when funds are obtainable, but when also, unfortunately, wages and prices are abnormally high. There are other puzzling details, such as allowance for working capital in its relation to credit. And a large group of values, usually bulked together as development expenses, hangs in the offing. These last more properly require discussion under the head of intangibles and will be so treated. Finally, the fixing of present value raises a number of very important questions, more weighty for railroads than for most other public utilities, connected with the ascertainment of land values. These have already been touched upon. All in all, the determination of the worth of property at the time of its use is feasible enough as a matter of engineering. Whether as a matter of economics it is sound is quite a different question.[2]

[1] *Quarterly Journal of Economics*, vol. XXVIII, 1914, p. 656. *Cf.* also Whitten, Valuation.

[2] Compare the wholesale condemnation of all reproduction theories in *American Economic Review*, vol. IV, supp. 1914, p. 27.

Twenty years ago *market or commercial value*, conditioned of course by earning power, was generally regarded as an all-important element in fixing fair rates. But although many railroad men and an occasional judge still uphold its validity,[1] it is discountenanced by the best progressive opinion. As Whitten well says:

"Market value has nothing to do with the rate question as thus considered. It is only set up after the rates are in fact determined. To be sure, the theory is that rates are based on a fair return on the market value of the road under reasonable rates. The impossibility of basing reasonable rates on a market value that is itself determined by reasonable rates is apparent. It is a clear case of reasoning in a circle. We have the evident absurdity of requiring the answer to the problem before we can undertake its solution. The advocates of the market-value theory cannot really mean what they say. Market value is not really a part of the process but the final result."

The same argument is made in a recent judicial decision.[2]

"It is one of the most mischievous and yet persistent fallacies, that the value of a property determines the prices which can be charged for the use of it. The precise opposite is the truth — the value of the property is determined by the price that can be charged for the use of it. It is not because an orchard is valuable that it yields apples. On the contrary, it is because it yields apples that it is valuable. To say that the reasonableness of rates depends upon the fair value of the property used and that the fair value of the property used depends upon the rates which may be reasonably charged, seems to be arguing in a circle."

This circle argument is constantly cropping up. It has been wielded for years against physical valuation of any sort. And, as applied by the Washington Railroad Commission in fixing rates, it certainly seems highly illogical if not absurd, except possibly for misplaced or partially obsolete roads.[3] But it is submitted that this need not necessarily be so. All depends

[1] *Cf.* my quotations as early as 1907 in *Political Science Quarterly*, vol. XXII, p. 604.

[2] *Brunswick and T. Water District* v. *Maine Water Company*, 59 Atl., 537.

[3] Second and Third Annual Reports, 1907–'08; Proceedings National Association Railway Commissioners, 1911, p. 148.

upon whether the business is carried on under conditions of monopoly or of competition. In ordinary business, earnings determine valuation; but as railroads are operated nowadays, or at all events should be, under a firmly-established theory of regulated monopoly, the relationship is reversed. It is not earnings which determine value, but valuation which fixes earning power. The difference is in the starting point of the reasoning. This is only another way of saying that a reasonable rate of charge for a railroad is one of the results and not the cause of the fair value of the property employed.[1]

The proper function of market valuation, viewed in another way, is to set off the intangible elements in fair value from the purely physical ones. No one denies that commercial value depends in large measure upon the present or future income-producing capacity of property; and, furthermore, that it is the use made of this property and neither its original cost nor its present cost of reproduction that fixes its present worth. Governmental valuation seeks not to find the total value at all, but to discover what part of it is represented by real property and what part by intangible assets. Merely to make use of the total value, as dependent upon net income, as a basis for regulation would, of course, involve reasoning in the old vicious circle. Once we admit evidence as to total market value, Münchausen-like, we are trying to lift ourselves by our bootstraps. But that is not the present proposition in any sense. The aim is to differentiate in the total worth between two distinct sources of value: one, the actual investment in physical plant to be credited to stockholders; the other, the intangible value, some part of which belongs by right to the public while other parts remain essentially the reward of private initiative. So long as these franchise gifts were of doubtful value, the people were willing to permit all profit upon them, if there were such, to accrue to the private owners of the shares; but as soon

[1] Admirably reasoned by Justice Swayze in the Paterson, N. J., Gas Company case, 87 Atl. Rep. 651. *Cf.* footnote, p. 370, *infra.*

as that stage of development was passed, the public insisted upon its right to some part of the advantage. In brief, the demand for valuation registers a protest on behalf of the public against paying returns indiscriminately to private stockholders upon values, a part of which the public itself may have created and granted to the corporations. It is the emergence of such values due to the growth of the country, over and above the capital investment values, which accounts for the extraordinary interest and activity of the legislatures, courts and commissions in this work all over the country.[1]

Recognition of an intangible value as property, over and above the mere physical plant, — characterized by William H. Taft in accepting the nomination for the presidency as "full value" — has been accorded by the practice of several states. The exact nature of this surplus value we shall have occasion to consider elsewhere, merely noting once more that it is based upon earning power or income. In other words, after the payment of a normal return on a fair value of the actual property, the excess earnings are capitalized in order to set an additional value upon the concern. A concrete example may serve to make this clear. Let us suppose that a railroad possessing physical property worth $10,000,000 is earning at the rate of $1,200,000 net a year. Five per cent. on the $10,000,000 of actual property, or $500,000, therefore represents the interest return on capital. But there still remains $700,000 of the annual income to be distributed. This would pay 7 per cent. upon $10,000,000 more of capitalization — a rate of return none too high, perhaps, considering its contingent and fluctuating character. The surplus earning power over and above the normal return on the actual property, thus capitalized at $10,000,000, is the value of the "non-physical" property. It is this excess which is termed intangible value or, as it is

[1] Further discussion of this side of the case by the author in *Political Science Quarterly*, vol. XXII, 1907, p. 606 ff., is essential to a complete understanding of the subject. It is omitted in order to avoid repetition.

defined in New Jersey, "the value of the remaining property." Michigan in 1900 under the leadership of Professor Henry C. Adams, was a pioneer in this field.[1] Estimated in general upon the above plan, the intangible value of the railroads in that state in 1900 amounted to $35,800,000, or 19 per cent. of a total worth, comprising both physical plant and intangibles, of $203,000,000 for the railroad net as a whole. Washington in 1905 gave special attention to everything affecting both density of traffic, that is to say earnings on one side and operating expenses on the other, as distinct from the bare bones of the plant.[2] The results, so far as one can decipher them, indicate an intangible value on the whole about offsetting depreciation; so that the market value of the properties, which was sought, approximately equalled their reproduction cost, new. As for the individual roads, the intangible value varied greatly, from an excess above reproduction cost of 20 per cent. for the Oregon Railway and Navigation Company, to 1 per cent. for the Northern Pacific. For smaller roads dependent for future business upon partly depleted forests, the market value over and above physical property was necessarily nil. New Jersey found the value of the "remaining property" of its carriers in 1909–'11 to be about $76,000,000, that is to say, about 20 per cent. of the present physical worth.[3] Here again, as in Washington, capitalized earning power varied greatly as between different roads, from 11 per cent. on the Erie to 31 per cent. on the Reading. And here again, also, one notes an agreement with both Michigan and Washington, in a practical equivalence between depreciation and intangible value, the one just about offsetting the other. The foregoing figures indicate intangible values reflecting earning power, that is to say market

[1] See his testimony before the United States Industrial Commission, 1900, vol. IX, p. 373; United States Census Bulletin, no. 21 on Commercial Valuation, 1904, p. 79. The Cleveland street railway settlement by arbitration in 1909 was somewhat similar.

[2] *Journal of Political Economy*, vol. XXI, 1913, p. 332.

[3] Table, p. 345, *supra*.

value, which seem to fluctuate up and down about one-fifth of the worth of the physical plant. Whether this excess value be termed good-will, the worth of a going concern, or franchise value — points shortly to be considered — will make no difference in the statistical result, however much it may affect the inclusion of all or a part of this value in the rate-making basis.

The difference between capitalizing all net income, in other words making earnings the sole criterion of value, and resorting to a distinction between structural and intangible values, may best be shown by an illustration. Reverting to our hypothetical example on the preceding page, it will be recalled that, out of a total income for the hypothetical road of $1,200,000, we allowed $500,000 to stand for 5 per cent. on the $10,000,000 of real property, assuming that the balance of income ($700,000), capitalized at 7 per cent., would support a valuation in intangibles of $10,000,000. This would constitute a total of $20,000,000. The older view holds that it makes no difference whether dividends be computed at 6 per cent. on $20,000,000, or be reckoned, as is done here, at 5 per cent. on the first $10,000,000 and 7 per cent. on the second like amount. That is indeed true, speaking only of the present. But how about the days to come? Need more than 5 per cent. ever be earned on that first $10,000,000, standing for the physical plant. All the balance of earnings, if distributed, are chargeable as dividends on the remaining half. This would make the rate of dividend rise more rapidly than if computed equally on the entire capital, as one instance will demonstrate. Suppose the earnings rise from $1,200,000 to $1,800,000. Were all securities paid alike, this would permit 9 per cent. on the original capital of $20,000,000. But if only 5 per cent. on the first $10,000,000 were allowed, there would be a balance of $13,000,000 of income left over, which would yield 13 per cent. on the second $10,000,000 of securities. Public attention to this, as an enhanced intangible value, would

be far more likely to be aroused than under the 9 per cent. plan of equal dividends on all alike.[1]

The subject of intangible values may not be dismissed without further examination, for just now it is the most rapidly growing tip-end of the subject. Courts and commissions seem to be if not all at sea at least well out at sea, or, to change the figure, almost at loggerheads. Few of them have clearly dissected the value of "the remaining property," or "full value," from the point of view of the conflict of private and public rights.[2] Three intangible possessions, quite distinct in their nature although blending at the margins, are discernible. These are franchise value, good-will, and the worth of a going concern. The franchise has value either because of the possession by the company of a privilege of place, of time or of use. Thus a railroad may enjoy a strategic location and conceivably, as we may hope in future, will be protected in the possession thereof as against all comers, although perhaps not to the extent of leaving Pittsburg always at the mercy of the Pennsylvania Railroad or New England in the palm of the New Haven's hand. But within reasonable limits, sound public policy approves of regulated and at the same time protected monopoly. Or, again, a carrier may for a period of time have conferred upon it certain privileges which add to its earning power.[3] Wherever such privileges are conferred or perpetuated by public authority, it is obvious that no claim can rightfully be set up as against the public for the enjoyment of more than fair profits. It is now well-settled law that in return for a franchise which largely guarantees the integrity of an investment, the company may equitably be limited in the rate of return to be had.[4] An interesting question at this point is as to the status of such privileges of location as arise from per-

[1] Fully discussed at p. 110, *supra*.
[2] Loosely used even by J. H. Gray, *Economic Review*, vol. IV, supp. 1914, p. 32.
[3] *Cf.* cases cited in Ripley, Railway Problems (rev. ed.), p. 740.
[4] P. 326, *supra*.

petual trackage rights. The Massachusetts Validation Report, for example, allowed $6,000,000 to the New Haven for its perpetual right to the use of the New York Central terminals.

The second intangible element is good-will, not inaptly defined as the "present value of expected super-profits."[1] Reputation in trade is a characteristic asset of competitive business and as such has only a remote connection with railroads under present conditions. With but a single carrier in the field, the shipper has no choice and no good-will either to give or to withhold. Consequently, it is argued that no allowance therefor should be permitted in valuation.[2] And yet, we submit, a large part of the business of a carrier is after all really competitive. Reputation for certainty and despatch of freight and for safety in passenger carriage may cut a not inconsiderable figure in receipts. As for the third intangible, going value, this arises from an established business as against one in its initial stages. Unquestionably a system in full operation, with established connections, an efficient organization and a created income, with its property tried out and unified, is worth more than a railroad practically on paper, except for the fact that its physical plant is geographically in place. Here, certainly, is ground for an allowance whether for capitalization or rate-making. Nevertheless the practice of administrative commissions varies greatly.[3] The prime difference between a live railroad and a dead one, financially, is the amount of the losses and deficits in the early years of operation. Wisconsin practice permits such losses and deficits to be treated as capital; New York, followed by Maryland, makes allowance for them in a generous rate of return when once fully established. New Jersey, unqualifiedly accepting the view that a property with a business attached has a greater value than one without it, would seem to authorize the capitalization not only of deficits

[1] *The Accountant*, December 6 and 27, 1913; and January 27, 1914.

[2] *Cf.* especially, 4 Wisconsin, R. C. Rep., 1 and 60.

[3] *Quarterly Journal of Economics*, vol. XXVIII, 1914, p. 284; also Whitten, Valuation, chap. XXV.

below a fair return, but even of expenses incurred in holding patronage. Here is fair material for debate as to policy. The subject may be dismissed with the following lucid presentation from the Supreme Court of the United States of the difficulty of valuing either good-will or franchises.[1]

"Then again, although it is argued that the court excluded going value, the court expressly took into account the fact that the plant was in successful operation. What it excluded was the good-will or advantage incident to the possession of a monopoly, so far as that might be supposed to give the plaintiff the power to charge more than a reasonable price [citing *Willcox* v. *Consolidated Gas Co.*, 212 U. S., 19, 52]. An adjustment of this sort under a power to regulate rates has to steer between Scylla and Charybdis. On the one side if the franchise is taken to mean that the most profitable return that could be got, free from competition, is protected by the Fourteenth Amendment, then the power to regulate is null. On the other hand if the power to regulate withdraws the protection of the amendment altogether, then the property is naught. This is not a matter of economic theory, but of fair interpretation of a bargain. Neither extreme can have been meant. A midway between them must be hit."

All in all, the advance in economic reasoning during the period under review has been notable in many ways. Great activity has been accompanied by positive achievement. The main lines of procedure have in all probability become established, with one exception — and that a rather important one. Whether the courts and commissions have chosen wisely in the adoption of replacement cost as a standard of valuation seems open to debate. The errors and shortcomings of policy due thereto, have been either corrected or avoided by indirection thus far. A searching examination may yet reveal possibilities in the substitution of actual or original sacrifice — except possibly for land — for reproduction cost, which will profoundly affect the treatment of the whole subject.[2]

There being, as we have seen, four distinct public purposes of physical valuation, it is pertinent to inquire in how

[1] 223 U. S., 655.

[2] On the trend this way, *cf.* Whitten in *Annals Amer. Acad. Pol. Science*, vol. LIII, 1914, p. 185.

far the same principles apply interchangeably. In other words, are the results of appraisal for purposes of purchase or taxation applicable to those for rates or capitalization? It would seem as if any possession, physical or intangible, suitable for taxation might also be utilized in the fixing of rates. Otherwise a game of hide-and-seek would appear to be playable with values.[1] Many legal decisions indicate, if not identity, at least a very close inter-relation between these several uses of appraisal.[2] But to the economist certain important distinctions suggest themselves. Take, for example, valuation for rate-making and taxation. They are undoubtedly related. They vary in unison, particularly as affected by earning power. But both in theory and practice, appraisals for the two purposes are quite discordant. Thus an important part of any inventory for purposes of taxation is undoubtedly the worth of a going concern.[3] So long as this was indistinguishable from franchise value, progressive opinion insisted that while "hot assets" were worth more than "cold assets" for revenue purposes and hence for taxation, the difference might not be considered in measuring the reasonableness of railroad rates.[4] This attitude is becoming modified, as we have seen, with a clearer vision as to the nature of intangibles; so that the value of a going concern is receiving greater recognition in both cases alike. The real difference, it is perceived, has to do with appraisal of the franchise and not with going value as such.

Franchise values, as taxable under the laws of a number of states, are commonly forbidden as a basis of capitalization. And yet such possessions are of substantial worth. Ten years ago the franchise of the Southern Railway was assessed by the state of Georgia for about two-thirds as much as its

[1] *Cf.* Smalley on property and not-property, in Ripley, Railway Problems (rev. ed.), p. 623.

[2] Whitten, Valuation, p. 3 *et seq.*

[3] *Cf.* p. 361, *supra.*

[4] *Cf.* the Wisconsin idea and particularly Senator La Follette: Cong. Record, vol. XL, no. 108, p. 5993.

tangible possessions. On the Louisville & Nashville under the laws of Kentucky, the franchise valuation equalled approximately 40 per cent. of that of the real property. This same railroad on its lines in Florida in 1902 made returns for purposes of taxation only about one-half those certificated shortly afterwards to the Federal court in injunction proceedings against the enforcement of a statute reducing rates.[1] The company claimed that in the latter case it was entitled to a return upon replacement cost at least, — a basis which might be highly excessive for purposes of taxation if the road were being operated at a loss.[2] There can be little doubt that the early opposition of the carriers to the project for Federal valuation was due fully as much to apprehension over tax assessments as to the anticipated effect upon rates. The experience of several commonwealths tends to confirm this view of the matter. Railroad properties, except in the East, have probably in the past too largely evaded their just proportion of taxes. If the interest in valuation for rate-making purposes serves to stiffen up the assessment for taxes by comparison with other forms of property, the movement will not have been in vain.

How about the identity of valuations under condemnation proceedings, that is to say for public purchase, and for purposes of rate-making? Everything depends here upon the fact that for purchase the commercial valuation, absolutely based upon earning capacity, is final and all-important; while

[1] *Cf.* the Arkansas Rate cases, 1911, 187 Fed. Rep., 310, where tax valuation is applied to rate reasonableness.

[2] The Federal Census in 1904 in its report on Valuation of Railroads, p. 14, compares its commercial valuations with those for taxation. In only one instance, Connecticut, is the commercial valuation less than that for taxation. Outside of New England, the only states with a proportion of taxable assessment to commercial valuation as high as 60 to 70 per cent. are Illinois, Michigan, Wisconsin and New Jersey. A few others — Georgia, Indiana, Kentucky and Texas — assess their railroads at from 40 to 50 per cent. of their commercial value; while most of the remainder range from 7 per cent., as in Wyoming, to 38 per cent in Virginia. In New York the assessment in 1904 was only 25 per cent. of the market valuation.

in rate cases attention is focussed, not upon the fair value of the property alone or a fair rate of return, but upon the product of the two.[1] Rates, otherwise stated, are measured chiefly as to reasonableness by the *ratio* of net earnings to the worth of the property. Physical valuation is merely incidental to the ascertainment of this ratio. Obviously, therefore, in rate cases little or no weight attaches to net earnings at all. The distinction between the two purposes appears the moment we engage in details. Condemnation proceedings always allow for depreciation. In rate-making, depreciation may be relatively unimportant for a time unless the efficiency of the transportation agent is affected thereby. Going value is also troublesome. It must be considered in public purchase; but has not yet found firm footing as an element in fair value for rates.[2] And, finally, a franchise is undoubtedly property for purposes of condemnation;[3] while only the mere cost of obtaining it, seems likely to be allowed administratively for rate-making purposes. It is evident enough that grave error may be committed in an attempt to make a single physical inventory serve many masters.

[1] 23rd Ann. Conv. Nat. Assn. Railroad Com'rs, 1911, p. 146.

[2] *Cf.* Whitten, Valuation, pp. 440, 466, 500, 520 and 553; and *American Economic Review*, 1913, p. 380.

[3] Whitten, *op. cit.* p. 645.

Addendum to footnote 1, p. 361, *supra*.

The opinion of Justice Swayze that "logically no allowance should be made for the value of the special franchise in a case where it is not legally exclusive and where the state still retains the right to fix rates" is overset, apparently, by the Court of Errors and Appeals by a decision of December 9, 1914. It does not affirm that the value of the franchise is "necessarily" measured by the total market value of the securities, less physical valuation and development cost, "because this would take no account of inflation of stock values"; but it holds this excess to be "evidential" of a franchise value, taxable and properly a basis for rate measurement. A momentous conclusion, indeed, finally reached by six out of sixteen judges who have considered the matter. Can it fail to hold water?

CHAPTER XII

RECEIVERSHIP AND REORGANIZATION[1]

RECEIVERSHIP and reorganization are operations usually, although not necessarily, attendant upon insolvency. So closely are they inter-related through this common cause that it is only since the late '70s that they have become clearly differentiated. Receivership is the continuing control of a

[1] Consult T. L. Greene, Corporation Finance, 1897, pp. 146–176; Poor's Manual of Railroads, vol. LXXI, 1900 (analyzes 57 plans); E. S. Meade, *Annals Amer. Acad. Pol. Science*, March, 1901, pp. 205–243; G.

railroad by an officer appointed by a Federal or state court, who, in cases of dispute or litigation, assumes the management on behalf of all parties concerned, including the public with its right to uninterrupted service. Reorganization is the financial readjustment or settlement necessary for the restoration of peace and order, generally through the re-establishment of a proper equilibrium between income and outgo. Receivership is thus largely palliative. Reörganization is more truly remedial, seeking, as it does, to remove the causes of financial embarrassment. Receivership nurses. Reorganization aims to cure. Receivership precedes reorganization. It is also naturally terminated by it, unless the property has been so rehabilitated by the receiver as to be fitted for restoration to the stockholders. Foreclosure — that is to say, judicial seizure and sale of the property to the highest bidder by creditors for the satisfaction of their claims — is a third concomitant of financial failure. Whether it is an essential of reorganization is matter of debate. If, on the one hand, reorganization is merely a wholesale exchange of new securities for old for purposes of financial accommodation, the scope of the term is much wider than if, as otherwise claimed, no real reorganization may occur without a forced sale by judicial order. This latter seems to be Cleveland's view. Meade also defines reorganization as "a settlement of the claims of the different parties in interest on such a basis that the property can be released by the court and again managed as a going concern." It would appear as if the first and wider definition were on the whole preferable. For, according to recent experience, a radical readjustment of capitalization, certainly equivalent to reorganization, may take place as well because of extreme prosperity as by reason of financial prostration. The Alton recapitaliza-

Daggett, Railroad Reorganization, *Harvard Economic Studies*, vol. IV, 1908 (nine reorganizations analyzed in detail); Cleveland and Powell, Railroad Finance, 1912, pp. 215–271 (bibliography). Catalogue, Bureau of Railway Economics, 1912; and bibliography of Railway Capitalization, U. S. Library of Congress, 1909.

tion of 1906 or that of the Rock Island in 1901 [1] were largely methods of distributing surplus. And the Seaboard Air Line financing of 1909, so conservative that not even the common stock was disturbed, was likewise a reorganization, although having no connection whatever with corporate impoverishment. But our present concern is not with this class of cases. This chapter has to do specifically with methods for the alleviation of financial distress.

As to whether reorganization is or is not necessarily accompanied by foreclosure proceedings is not merely a matter of definition. Many financial readjustments, the outcome of distress, which we shall have occasion to review, have never resulted in a forced sale at all.. Of Daggett's seventeen leading examples only ten were marked by actual foreclosure.[2] We hold, therefore, that a comprehensive readjustment of capital relations is just as truly a reorganization, even if no judicial decree for sale is uttered at all. Thus the wholesale exchange of securities on the Reading in 1884–'87 was certainly just as much of a reorganization as if foreclosure had taken place. The old corporation was not closed out, simply because the company was loath to yield up its valuable charter rights. Whether the Cincinnati, Hamilton & Dayton settlement of 1909 with the Baltimore & Ohio was also a reorganization, in that it temporarily at least lifted it out of a financial slough, is, perhaps, more open to question. The precise function of foreclosure is of minor importance in any event since the opinion of the Supreme Court of the United States[3] in the Northern Pacific Railway case. This decision held that reorganization was not a mere formal transfer of property by judicial sale, but rather an effort of security holders, independent of the closing out of the old corporation, to replace the company upon a firm and stable financial footing. In

[1] Treated as stock-watering; pp. 152 and 262, *supra*.

[2] Cleveland, p. 249, gives other examples.

[3] *Boyd etc.*; 228 U. S., 482.

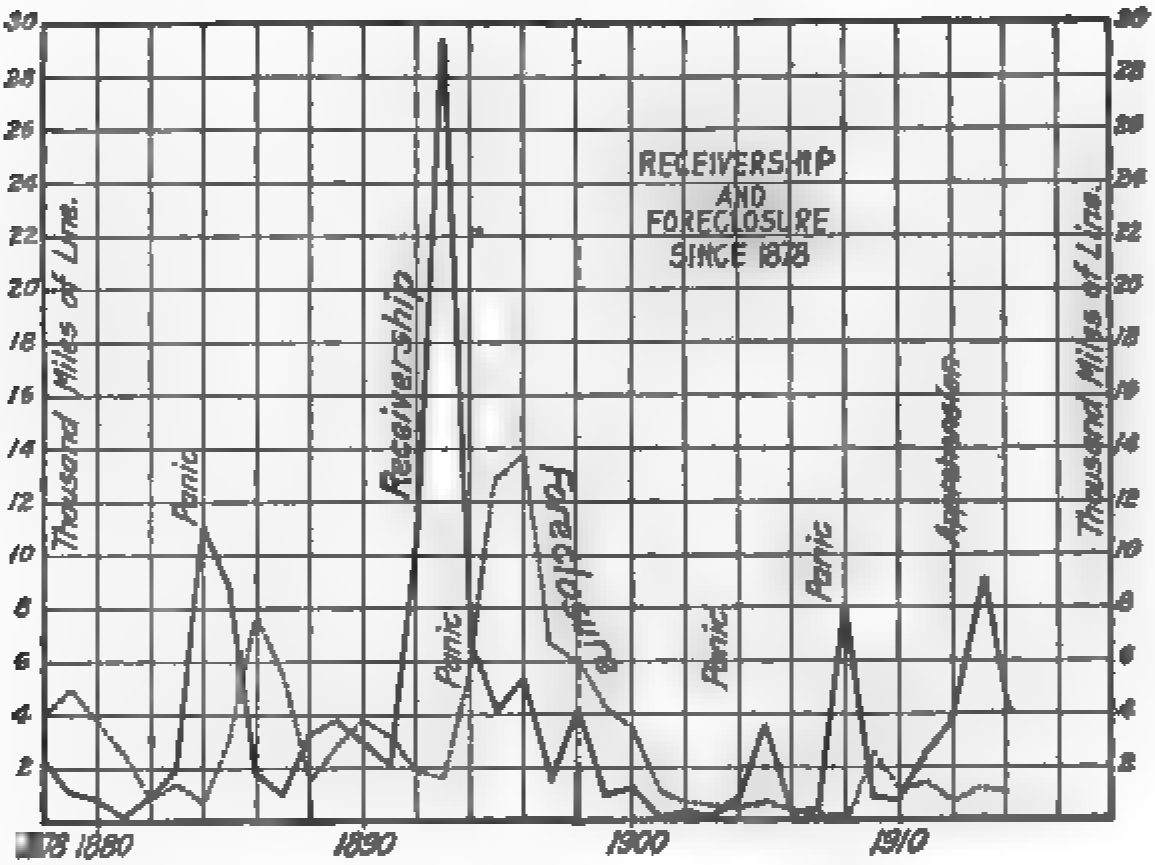
other words, emphasis in this opinion was laid upon financial readjustment for purposes of corporate stability; while foreclosure was held to be merely a means to that end. So unimportant was foreclosure held to be, in fact, that the court permitted the corporate gap between the old and new companies to be bridged by the claims of former general or unsecured creditors. This decision should put an end to the abuse of foreclosure proceedings on purely technical grounds, in order to wind up the affairs of an embarrassed corporation and effect a preference between different classes of creditors.

Railroad failures throughout our experience have been relatively frequent. The aggregate of receiverships and foreclosures surpasses expectation, — a depressing disclosure suggestive of the reports of the British Commissioner on Winding-up Corporations. Within almost 40 years since 1875, $8,262,000,000 of railroad bonds and stocks have been involved in receivership proceedings; and $7,400,000,000 have come under foreclosure sale. These figures together about equal the total present capitalization of the entire American railway net. Approximately one-half of the existing railroads in the United States have at some time or other passed through financial reorganization.[1] About one thousand corporate foreclosure sales have taken place during the same period. The mileage affected by both foreclosure and receivership since 1875 is roughly equal to the total length of the present railway system. An examination of the pathology of railroad finance would certainly seem to be warranted in view of such a record.

The chronicle of railroad distress, year by year, is exhibited upon the diagram on the opposite page, based upon the miles of line affected. The first out-standing feature is the intimate association between receivership and foreclosure and the panic periods in our history; and particularly the exceptional acuteness of the panic and depression of 1893–'97. Railroad

[1] *Railway Age Gazette*, vol. LII, p. 945, and vol. LVI, p. 4; Swain, Receivership, p. 66.

failure is a certain barometer of trade conditions. Announcement of a receivership for the Erie, as a leading authority on banking puts it, "has been a customary feature of our commercial crises for half a century." In 1857, in 1873, at the time of the Grant & Ward failure in 1884, in 1893, and again within a hair's-breadth of it in 1908, did this historic property serve as a warning of financial distress. The Northern Pacific went down with Jay Cooke in 1873 and again twenty



years later. The Philadelphia & Reading was in receivership in 1884 and again in 1893; its example each time being followed by the leading railroads in the southern states. All along the line, to be sure, are scattered sporadic failures of important companies such as the Rock Island, the Reading again and the Union Pacific in 1880, the row-of-bricks downfall of the Gould roads in 1888–'91 and the Chicago Great Western affair in 1909. These independent collapses during fair weather may be regarded as local phenomena, due to personal mismanagement or inherent weakness. But in the main railroad failure,

as of course one might expect, concentrates about the panic years. This was evident as early even as 1837.[1] Over ten per cent. of the mileage of the country and one-quarter of its railroad bonded debt, defaulted on its interest obligations in 1873–'74 before modern procedure had fully developed.[2] True receivership is first noticeable on a generous scale in 1884, when 11,000 miles of line were taken over by the courts. In the fall of 1907 (1908) 18,000 miles of road succumbed once more. The short sharp ("Rich Men's") panic of 1903 alone stands forth by way of contrast, as practically unproductive of railway disorder. The year 1913, labelled on our diagram as a time of "Apprehension," is also distinctive through the prominence of railroad distress. By the ensuing autumn almost $600,000,000 of railway bonds and notes were in default, this condition contributing to the urgency of the demand for Federal permission to increase rates. But all records in this regard — it is to be hoped forever — were broken by the panic of 1893, when the control of an unprecedented mileage was handed over to officers of the state and Federal courts. On June 30, 1894, 192 companies were in the hands of receivers, of which 126 had been consigned thereto during the preceding year. The total mileage operated by these defaulting companies was 40,818. The stocks and bonds affected by receivership aggregated $2,500,000,000,—that is to say, one-fourth of the total railway capitalization of the country at that time. Thus was a dire penalty exacted for the violation of inexorable economic laws during the preceding decade of development.

A second conclusion emphasized upon the diagram is the sequence in point of time of the allied phenomena. Foreclosure follows receivership in frequency like a shadow after an interval of about two years.[3] This will be observed in

[1] Swain, *op. cit.*, p. 73.

[2] Crowell, *op. cit.*, p. 322.

[3] Swain, p. 103, finds the average length of receivership to be 2–3 years.

1884, 1893, and 1907. Events appear to be shaping themselves to bring about a similar sequence at the present time. Almost 23,000 miles of line in the Gould and (old) Rock Island systems, besides a half dozen independent "construction-company" enterprises,[1] are just now in process of reorganization. But the present situation is somewhat peculiar in this regard. A larger proportion than usual of these properties in distress seems like to pass directly into reorganization without the intervention of receivership at all. On the whole, a relative decline in judicial interference is apparent.[2] Decade by decade, there has been a decided subsidence in the railroad mileage thrown into the hands of receivers. The following table throws this into strong relief.

RECEIVERSHIP

	First Decade 1882–'91	Second Decade 1892–1901	Third Decade 1902–'11
Companies	279	222	86
Mileage	37,816	62,266	17,574
Capitalization	$1,884,000,000	$3,543,000,000	$1,245,000,000

The change, furthermore, seems to be something more than a mere turn of fashion. Substantial economic forces are at work. A rigorous process of natural selection has weeded out many of the feeble and the unfit roads. Others have found refuge and strength in alliance with larger companies. A more powerful and definitely organized banking support is also probably in some measure accountable for the change. But the most important influence of all is the growth and filling up of the country, — traffic having developed, that is to say, more in proportion to the facilities for transportation pro-

[1] P. 49, *supra*.
[2] *Railway Age Gazette*, vol. LII, 1912, p. 945.

vided. For a growing density of traffic, as we have shown,[1] is the most certain panacea for all the ills to which railroad flesh falls heir.

Examination of the causes of receivership and reorganization, as distinct from the mere occasions upon which they come to light, is tantamount to analysis of the reasons for railroad failure. Of these there seem to be four; which shade off into one another and often overlap, yet which, on the whole, are sufficiently distinct in kind to warrant segregation. These form a series, ranging from one extreme of mere unreasoning optimism and incompetence, — errors of judgment, perhaps, — down through various grades of culpability to speculation and fraud at the other. Over-expansion or excessive competition — that is to say, an assumption of financial burdens out of proportion to earning power — is the first cause of downfall. This is a commercial fault coupled, it may be, with financial incompetence. The second disintegrating influence, productive of grave financial danger, is over-capitalization. This has already been exhaustively treated in a chapter by itself. Such stock-watering has often been a handy side-partner of over-expansion. Standing by itself it is indicative of error in fiscal policy, quite distinct from commercial or traffic misjudgment. A road may be finely operated, with a rich and growing territory, and still go to pieces from this cause. Thus did the Rock Island in 1913–'14. Speculation and its helpmeet, fraud and deception, come next in order. A long chain of disasters has followed in their wake. The catalogue concludes with a minor source of trouble, — possibly rather a symptom than a cause, — not infrequently resulting in court proceedings and reorganization. This is internal dissension, a conflict of interest between different classes of security holders.[2]

The downfall of the Atchison, Topeka & Santa Fé system in 1889 was primarily due to over-expansion, — to premature

[1] Railroads: Rates and Regulation, p. 86.
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development of transportation facilities in advance of population.[1] Of its 7,000 miles in 1888, 2,700 had been constructed or acquired within two years, in an ambitious attempt to make over a local property into a transcontinental system. From Chicago to the Gulf of Mexico and the Pacific Coast simultaneously is a wide reach. Another case of over-expansion was the Philadelphia & Reading in 1884 and again in 1893; although this time, as will appear,[2] it was a monopoly of anthracite properties rather than of mere carriers which was attempted. The Northern Pacific went to pieces in 1893, also, largely because of an overload of branch lines, coupled with an effort to reach Chicago by means of a bad lease of the Wisconsin Central. Obligations assumed to the amount of over $30,000,000 in connection with subsidiary roads, with little or no addition to net income from them over operating expenses, proved an insupportable burden. And then there was the disruption of the Gould combination in 1907,[3] — promising for a time to constitute the first ocean-to-ocean system. A variant of inordinate expansion — all circumstances considered — or what perhaps more truly merits the name of over-competition as a cause of insolvency, is noticeable in the troubles of the considerable group of "construction-company" roads at the present time. The attempt of any independent interest to invade a territory already occupied or pre-empted by one of the large systems is bound to be an up-hill job.[4] But in these and many other instances disaster can scarcely be ascribed to over-expansion alone. Internal financial weakness was too often also to blame. The primary principles of effective military campaigning were neglected; such as the provision and protection of a secure base of supplies, even under the worse possible contingencies; and the thorough and intensive occupation of one territory before engaging in the invasion of another.

[1] Swain, *op. cit.*, p. 83, gives many examples.
[2] Chap. XVI, *infra*. [3] Chap. XV, *infra*. [4] P. 49, *supra*.

The second cause of railroad failure — still unattended by fraudulent practices — is over-capitalization or an ill-balanced financial structure. The Rock Island reorganization of 1880 was not due to lack of traffic or earnings. The road had not suffered from over-expansion or excessive competition. Ways and means for concealing or getting rid of earnings without arousing public hostility were sought. Subsidiary lines were absorbed, and such an exchange of securities effected as to double the capital stock and appreciably to increase the funded obligations. It was this process of stock-watering, followed in 1902 by a repetition of the same offence, which finally brought this fine property to its present state of prostration. The East Tennessee, Virginia & Georgia programme of 1884–'86, by which a gigantic merger of most of the disconnected railroads in the southern states was attempted, also came to a bad end through over-capitalization. Within eight years the stocks and bonds were run up from $23,000 to $80,000 per mile of line.[1] Net income was entirely absorbed in meeting fixed charges. And then the ever-recurring troubles on the Erie may be cited. Starting wrong in life, robbed by those who should have been its guardians, repeatedly committing the financial crime of borrowing anew in order to pay interest upon an already excessive indebtedness, is it any wonder that this trunk line should until lately have been a byword among money lenders the world over?[2] Equally unfortunate as to its past was the Wabash, also so loaded down with fixed obligations that no margin whatever for development remained.[3] The present difficulties of the Cincinnati, Hamilton & Dayton, likewise, all date from 1904, when within the short space of two years its bonded indebtedness ran up from $12,000,000 to $48,000,000 and its floating debt from $200,000 to $10,000,000.[4] It is the over-weight of bonds, of course, rather than of total capitalization alone, which is at fault in most of these cases.

[1] Daggett, p. 157.
[2] Daggett, pp. 36–58.
[3] P. 85, *supra*.
[4] P. 214, *supra*.

But there can be little doubt that an excessive aggregate of securities so closes all possible channels of financial aid that a property is bound to drift into rough water in face of competition from more conservatively handled roads.

Soundly financed, a company may weather a period of rapid or even dangerous expansion; and conversely, a prudent policy of cultivating a given field intensively may offset a poorly devised financial structure; but the combination of both over-expansion and stock-watering is irresistible. Thus was the Union Pacific reorganization of 1893 rendered necessary. Jay Gould had unloaded upon it all of his worthless branch lines. Its indebtedness to the United States had been mismanaged; and yet all the time it had pursued a policy of wide extension. All experience from this exaggerated instance, and of the others above mentioned, goes to reinforce the principle that a wide margin between fixed charges and minimum earnings is an essential both for present safety and for such promise of improvements and development as shall minimize costs of operation and keep step with the march of events.

Many a well-operated railroad has been brought to reorganization through speculation or manipulation for the interest of insiders in the management. As good an example as those already cited in our treatment of the subject,[1] is the Richmond & West Point Terminal failure of 1891. This led through reorganization to the creation of the present Southern Railway system. The events contributing to this failure in all their ramifications read like corporate melodrama.[2] Three principal companies played a part: the Richmond & Danville, lying lengthwise of the Piedmont shelf on the Atlantic side of the Appalachian Mountains; the East Tennessee, Virginia & Georgia, west of the mountains and reaching around the southern end across Georgia to the sea; and the Richmond & West Point Terminal, merely a holding company organized

[1] Chap. VI, *supra*.
[2] Details in Daggett, pp. 146–199.

in 1881 by the first road above mentioned, for the purpose of acquiring stocks and bonds of subsidiary lines. The first of these three had been heavily financed by Virginia. Tennessee had been foster-mother to the second. The third, although finally dominating everything, had no such respectable antecedents. Officially, it was an orphan, a waif. The tale opens with a forgotten chapter in Pennsylvania Railroad history, which left it in the early '70s owning a majority of stock through the Southern Railway Security Company in both of the aforementioned railroads, east and west of the Alleghanies. On its abandonment of this southern extension policy, its concentrated holdings were shuffled from one rival syndicate to another, each taking a profit on the way.[1] The early '80s witnessed control of the two actual railroads, respectively east and west of the mountains, lodged once more in the same hands. But in the meantime the East Tennessee had been over-extended, extravagantly financed and inadequately maintained even to the point of bankruptcy by 1884. The Richmond & Danville, not much better off, in search of means for reducing expenses, at this juncture picked up the Richmond Terminal holding company which had been cut loose from its parent road. It was thereupon bereft of 1,500 out of its 1,800 odd miles of line; and its stock was dumped upon investors who knew nothing of its poverty of assets.

Fortunately for the Richmond Terminal Company, certain of its stockholders were resourceful enough promptly to turn the tables upon its enemies. A control of the stock of the railroad which had just taken away most of its assets was promptly picked up; and, even more than that, the East Tennessee system was also brought into the combination for the third time, at first by lease[2] and subsequently by purchase of a majority of its capital stock. Next in these kaleidoscopic

[1] *Cf.* the C., H. & D. syndicates, p. 216, *supra*.

[2] So questionable as being entirely in the interest of first preferred stockholders that it was promptly cancelled by judicial order.

changes, came the purchase of the Central Railroad of Georgia, on terms which permitted large speculative profits to insiders on both boards of directors, although at heavy annual loss to the Richmond Terminal itself. A few minor additions brought the system in 1890 to a magnitude of 8,500 miles of line. A year later the inflated bubble burst and all the speculative machination came to light. Its most patent manifestation was the immense over-capitalization of all the roads concerned. No salvation except through drastic reorganization was possible.

Downright fraud as a cause of bankruptcy is evidenced in practically every railroad with which Jay Gould ever had anything to do.[1] Dishonesty also undoubtedly played a considerable rôle in the involved connection with the Wisconsin Central which culminated in receivership for the Northern Pacific in 1893. And then, 20 years later, the "Frisco," like the Richmond Terminal and the Northern Pacific, wrecked through over-expansion, was undoubtedly brought to a sad end through acts of insiders grossly tinted with favoritism, if not dishonesty.[2]

Internal dissension, last in our series of causes, is not infrequently provocative of receivership. Other issues than finance, that is to say, may bring about judicial intervention. Disputes over the terms of leases, dissatisfied minority interests[3] and even controversy between opposing reorganization committees, as on the Northern Pacific in 1893, may any of them precipitate receivership and lead up to reorganization.[4]

The first indication of trouble is the taking over of the property from the stockholders by the appointment of a re-

[1] *Cf.* the Kansas Pacific, p. 249, *supra;* the Erie, p. 157, *supra;* the Missouri, Kansas & Texas and the Texas & Pacific. (Cleveland, p. 249.)

[2] P. 41 *supra.* Add also the C., H. & D. affairs of 1904–'06, p. 216, *supra.*

[3] P. 445, *infra.*

[4] Swain, *op. cit.*, p. 93; *Com. & Fin. Chron.*, vol. XLIII, pp. 23 and 515; Cleveland, p. 234; and Daggett, p. 288.

ceiver.[1] The function of this agent of the court, originally confined merely to closing out the affairs of the corporation for the benefit of creditors, has gradually expanded into a multiplicity of activities, often actually constructive and intended to conserve the interest of all parties concerned. The rights of creditors to satisfaction of their claims, of stockholders to preservation of their equity and of the public to uninterrupted service must all be safeguarded. Receivership, contrary to popular impression, has thus come to be quite as often a reprieve as a death sentence. It may be the first step toward rehabilitation. The office gradually developed out of ordinary trusteeship, especially during the late '70s, when it was ascertained that trustees of a mortgage oftentimes possessed powers neither sufficient to overcome obstacles to foreclosure nor broad enough to continue operation and to safeguard the stockholders' equity. For, as will be recalled from our discussion of bonds,[2] the real security of creditors and stockholders alike is not dead assets, but property productive of earnings through continued use. As for the immediate occasion for the appointment of a receiver, it is most commonly impending or actual default in interest or principal of a debt. But such obligations need not be long-standing funded ones alone. Quite as often a property goes into receivership upon the application of note holders, contractors, supply men or even employees, seeking satisfaction of their respective claims. Sometimes, even, the road may be quite solvent. The court, nevertheless, assumes custody pending the settlement of some dispute.[3] But whatever the immediate occasion, the receiver upon taking charge supplants all others in authority.

[1] On receivership consult Swain, American Economic Association, Studies, vol. III, 1898, p. 161; Crowell, *Yale Review*, vol. VII, 1898, pp. 319–330; Cleveland and Powell, Railroad Finance, 1912, pp. 227–247; and legal treatises, such as Beach, Alderson, High, Smith and Elliot. *Cf.* also *American Law Review*, vol. XXIII, p. 56; vol. XVII, p. 481; and vol. XXX, pp. 161, 259 and 520.

[2] P. 126, *supra*.

[3] Swain, *op. cit.*, p. 93.

The functions and powers of receivers are multifarious and complex. The primary office is to continue operation of the road. This is usually in bad condition, due to postponement of necessary maintenance as a measure of forced economy. Cancellation of onerous leases and contracts is a second detail of the receiver's task. Had the Boston & Maine been thrown into receivership in 1914, the burdensome leases of subsidiary lines, as well as the American Express Company and Pullman contracts, might have been promptly annulled. Car-trust agreements also may be terminated or modified. But permanent contracts in substitution, usually require a special judicial order for validation. Whether interest payments will be continued or not also lies at the discretion of the court. Receivers may sometimes exercise positively constructive powers. They may overhaul and upbuild the plant and restore its working efficiency. Construction under way may be completed; and even entirely new mileage may be undertaken, if it be necessary to the end in view. In short, receivers have come to exercise most of the functions of stockholders, provided the urgency be sufficiently great. The length of term under American practice somewhat explains this situation. Many receiverships have extended over periods of from five to ten years.[1] The Vermont Central was thus held for 29 years. On the whole, the average duration has been from two to three years; that being a sufficient period to determine whether the property can be saved as it stands, or must pass on through foreclosure and reorganization.

Owing to the commonly depreciated condition of a property on going into receivership, the first duty of the new management is to raise cash at once. All sorts of claims are pressing for settlement. The credit of the road is exhausted. And every step toward rehabilitation calls for extraordinary outlay. In order to meet this situation, emergency methods for raising funds through the issue of so-called receivers' certificates

[1] Crowell, p. 102.

as of course one might expect, concentrates about the panic years. This was evident as early even as 1837.[1] Over ten per cent. of the mileage of the country and one-quarter of its railroad bonded debt, defaulted on its interest obligations in 1873–'74 before modern procedure had fully developed.[2] True receivership is first noticeable on a generous scale in 1884, when 11,000 miles of line were taken over by the courts. In the fall of 1907 (1908) 18,000 miles of road succumbed once more. The short sharp ("Rich Men's") panic of 1903 alone stands forth by way of contrast, as practically unproductive of railway disorder. The year 1913, labelled on our diagram as a time of "Apprehension," is also distinctive through the prominence of railroad distress. By the ensuing autumn almost $600,000,000 of railway bonds and notes were in default, this condition contributing to the urgency of the demand for Federal permission to increase rates. But all records in this regard — it is to be hoped forever — were broken by the panic of 1893, when the control of an unprecedented mileage was handed over to officers of the state and Federal courts. On June 30, 1894, 192 companies were in the hands of receivers, of which 126 had been consigned thereto during the preceding year. The total mileage operated by these defaulting companies was 40,818. The stocks and bonds affected by receivership aggregated $2,500,000,000,—that is to say, one-fourth of the total railway capitalization of the country at that time. Thus was a dire penalty exacted for the violation of inexorable economic laws during the preceding decade of development.

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development of transportation facilities in advance of population.[1] Of its 7,000 miles in 1888, 2,700 had been constructed or acquired within two years, in an ambitious attempt to make over a local property into a transcontinental system. From Chicago to the Gulf of Mexico and the Pacific Coast simultaneously is a wide reach. Another case of over-expansion was the Philadelphia & Reading in 1884 and again in 1893; although this time, as will appear,[2] it was a monopoly of anthracite properties rather than of mere carriers which was attempted. The Northern Pacific went to pieces in 1893, also, largely because of an overload of branch lines, coupled with an effort to reach Chicago by means of a bad lease of the Wisconsin Central. Obligations assumed to the amount of over $30,000,000 in connection with subsidiary roads, with little or no addition to net income from them over operating expenses, proved an insupportable burden. And then there was the disruption of the Gould combination in 1907,[3] — promising for a time to constitute the first ocean-to-ocean system. A variant of inordinate expansion — all circumstances considered — or what perhaps more truly merits the name of over-competition as a cause of insolvency, is noticeable in the troubles of the considerable group of "construction-company" roads at the present time. The attempt of any independent interest to invade a territory already occupied or pre-empted by one of the large systems is bound to be an up-hill job.[4] But in these and many other instances disaster can scarcely be ascribed to over-expansion alone. Internal financial weakness was too often also to blame. The primary principles of effective military campaigning were neglected; such as the provision and protection of a secure base of supplies, even under the worse possible contingencies; and the thorough and intensive occupation of one territory before engaging in the invasion of another.

[1] Swain, *op. cit.*, p. 83, gives many examples.
[2] Chap. XVI, *infra*. [3] Chap. XV, *infra*. [4] P. 49, *supra*.

The second cause of railroad failure — still unattended by fraudulent practices — is over-capitalization or an ill-balanced financial structure. The Rock Island reorganization of 1880 was not due to lack of traffic or earnings. The road had not suffered from over-expansion or excessive competition. Ways and means for concealing or getting rid of earnings without arousing public hostility were sought. Subsidiary lines were absorbed, and such an exchange of securities effected as to double the capital stock and appreciably to increase the funded obligations. It was this process of stock-watering, followed in 1902 by a repetition of the same offence, which finally brought this fine property to its present state of prostration. The East Tennessee, Virginia & Georgia programme of 1884–'86, by which a gigantic merger of most of the disconnected railroads in the southern states was attempted, also came to a bad end through over-capitalization. Within eight years the stocks and bonds were run up from $23,000 to $80,000 per mile of line.[1] Net income was entirely absorbed in meeting fixed charges. And then the ever-recurring troubles on the Erie may be cited. Starting wrong in life, robbed by those who should have been its guardians, repeatedly committing the financial crime of borrowing anew in order to pay interest upon an already excessive indebtedness, is it any wonder that this trunk line should until lately have been a byword among money lenders the world over?[2] Equally unfortunate as to its past was the Wabash, also so loaded down with fixed obligations that no margin whatever for development remained.[3] The present difficulties of the Cincinnati, Hamilton & Dayton, likewise, all date from 1904, when within the short space of two years its bonded indebtedness ran up from $12,000,000 to $48,000,000 and its floating debt from $200,000 to $10,000,000.[4] It is the over-weight of bonds, of course, rather than of total capitalization alone, which is at fault in most of these cases.

[1] Daggett, p. 157.
[2] Daggett, pp. 36–58.
[3] P. 85, *supra*.
[4] P. 214, *supra*.

But there can be little doubt that an excessive aggregate of securities so closes all possible channels of financial aid that a property is bound to drift into rough water in face of competition from more conservatively handled roads.

Soundly financed, a company may weather a period of rapid or even dangerous expansion; and conversely, a prudent policy of cultivating a given field intensively may offset a poorly devised financial structure; but the combination of both over-expansion and stock-watering is irresistible. Thus was the Union Pacific reorganization of 1893 rendered necessary. Jay Gould had unloaded upon it all of his worthless branch lines. Its indebtedness to the United States had been mismanaged; and yet all the time it had pursued a policy of wide extension. All experience from this exaggerated instance, and of the others above mentioned, goes to reinforce the principle that a wide margin between fixed charges and minimum earnings is an essential both for present safety and for such promise of improvements and development as shall minimize costs of operation and keep step with the march of events.

Many a well-operated railroad has been brought to reorganization through speculation or manipulation for the interest of insiders in the management. As good an example as those already cited in our treatment of the subject,[1] is the Richmond & West Point Terminal failure of 1891. This led through reorganization to the creation of the present Southern Railway system. The events contributing to this failure in all their ramifications read like corporate melodrama.[2] Three principal companies played a part: the Richmond & Danville, lying lengthwise of the Piedmont shelf on the Atlantic side of the Appalachian Mountains; the East Tennessee, Virginia & Georgia, west of the mountains and reaching around the southern end across Georgia to the sea; and the Richmond & West Point Terminal, merely a holding company organized

[1] Chap. VI, *supra*.
[2] Details in Daggett, pp. 146–199.

in 1881 by the first road above mentioned, for the purpose of acquiring stocks and bonds of subsidiary lines. The first of these three had been heavily financed by Virginia. Tennessee had been foster-mother to the second. The third, although finally dominating everything, had no such respectable antecedents. Officially, it was an orphan, a waif. The tale opens with a forgotten chapter in Pennsylvania Railroad history, which left it in the early '70s owning a majority of stock through the Southern Railway Security Company in both of the aforementioned railroads, east and west of the Alleghanies. On its abandonment of this southern extension policy, its concentrated holdings were shuffled from one rival syndicate to another, each taking a profit on the way.[1] The early '80s witnessed control of the two actual railroads, respectively east and west of the mountains, lodged once more in the same hands. But in the meantime the East Tennessee had been over-extended, extravagantly financed and inadequately maintained even to the point of bankruptcy by 1884. The Richmond & Danville, not much better off, in search of means for reducing expenses, at this juncture picked up the Richmond Terminal holding company which had been cut loose from its parent road. It was thereupon bereft of 1,500 out of its 1,800 odd miles of line; and its stock was dumped upon investors who knew nothing of its poverty of assets.

Fortunately for the Richmond Terminal Company, certain of its stockholders were resourceful enough promptly to turn the tables upon its enemies. A control of the stock of the railroad which had just taken away most of its assets was promptly picked up; and, even more than that, the East Tennessee system was also brought into the combination for the third time, at first by lease[2] and subsequently by purchase of a majority of its capital stock. Next in these kaleidoscopic

[1] *Cf.* the C., H. & D. syndicates, p. 216, *supra.*

[2] So questionable as being entirely in the interest of first preferred stockholders that it was promptly cancelled by judicial order.

changes, came the purchase of the Central Railroad of Georgia, on terms which permitted large speculative profits to insiders on both boards of directors, although at heavy annual loss to the Richmond Terminal itself. A few minor additions brought the system in 1890 to a magnitude of 8,500 miles of line. A year later the inflated bubble burst and all the speculative machination came to light. Its most patent manifestation was the immense over-capitalization of all the roads concerned. No salvation except through drastic reorganization was possible.

Downright fraud as a cause of bankruptcy is evidenced in practically every railroad with which Jay Gould ever had anything to do.[1] Dishonesty also undoubtedly played a considerable rôle in the involved connection with the Wisconsin Central which culminated in receivership for the Northern Pacific in 1893. And then, 20 years later, the "Frisco," like the Richmond Terminal and the Northern Pacific, wrecked through over-expansion, was undoubtedly brought to a sad end through acts of insiders grossly tinted with favoritism, if not dishonesty.[2]

Internal dissension, last in our series of causes, is not infrequently provocative of receivership. Other issues than finance, that is to say, may bring about judicial intervention. Disputes over the terms of leases, dissatisfied minority interests[3] and even controversy between opposing reorganization committees, as on the Northern Pacific in 1893, may any of them precipitate receivership and lead up to reorganization.[4]

The first indication of trouble is the taking over of the property from the stockholders by the appointment of a re-

[1] *Cf.* the Kansas Pacific, p. 249, *supra;* the Erie, p. 157, *supra;* the Missouri, Kansas & Texas and the Texas & Pacific. (Cleveland, p. 249.)

[2] P. 41 *supra.* Add also the C., H. & D. affairs of 1904–'06, p. 216, *supra.*

[3] P. 445, *infra.*

[4] Swain, *op. cit.*, p. 93; *Com. & Fin. Chron.*, vol. XLIII, pp. 23 and 515; Cleveland, p. 234; and Daggett, p. 288.

gradually came into vogue. They were first used in the southern states about the time of the panic of 1873. The courts originally permitted such loans only in cases of extreme necessity and for specifically defined purposes. But it speedily developed that in order to obtain additional capital these certificates must take precedence even over the first-mortgage bonds, as a prior lien both on assets and earnings. The Wabash receivership of 1884 contributed to the development of this type of emergency financing. The court, despite protest from the bondholders against a large issue of certificates being placed ahead of their claims, still recognized their validity, inasmuch as they were intended for the settlement of back claims against the property as a whole. Little by little the same superiority in lien over outstanding bonds has become attached to the issue of certificates for a number of general purposes.[1] At first allowed only to pay claims for wages and supplies or past advances of interest by bankers, certificates have been permitted for construction of additional mileage, the purchase of new rolling stock, for general betterment or the redemption of pledged securities.

Undue liberality in the issue of emergency certificates has not infrequently obtained, whereby even solvent roads, thrown into receivership because of some other cause than bankruptcy, have finally succumbed to an overload of fixed charges of this sort. And yet how insistent the need for funds under such circumstances may be, was well exemplified in the case of the recent "Frisco" failure in 1913. The receivers endeavored strenuously to avoid the issuance of certificates, on the ground that it would defeat the prime purpose of the receivership which was to reduce fixed charges. But after a delay of several months, they were compelled to follow the customary procedure, in an application for authority to issue $10,000,000 of certificates. On the Wabash since the receivership in 1911, over $14,000,000 have already been issued. The salability of

[1] *Cf.* Cleveland and Powell, p. 244, for instances.

The functions and powers of receivers are multifarious and complex. The primary office is to continue operation of the road. This is usually in bad condition, due to postponement of necessary maintenance as a measure of forced economy. Cancellation of onerous leases and contracts is a second detail of the receiver's task. Had the Boston & Maine been thrown into receivership in 1914, the burdensome leases of subsidiary lines, as well as the American Express Company and Pullman contracts, might have been promptly annulled. Car-trust agreements also may be terminated or modified. But permanent contracts in substitution, usually require a special judicial order for validation. Whether interest payments will be continued or not also lies at the discretion of the court. Receivers may sometimes exercise positively constructive powers. They may overhaul and upbuild the plant and restore its working efficiency. Construction under way may be completed; and even entirely new mileage may be undertaken, if it be necessary to the end in view. In short, receivers have come to exercise most of the functions of stockholders, provided the urgency be sufficiently great. The length of term under American practice somewhat explains this situation. Many receiverships have extended over periods of from five to ten years.[1] The Vermont Central was thus held for 29 years. On the whole, the average duration has been from two to three years; that being a sufficient period to determine whether the property can be saved as it stands, or must pass on through foreclosure and reorganization.

Owing to the commonly depreciated condition of a property on going into receivership, the first duty of the new management is to raise cash at once. All sorts of claims are pressing for settlement. The credit of the road is exhausted. And every step toward rehabilitation calls for extraordinary outlay. In order to meet this situation, emergency methods for raising funds through the issue of so-called receivers' certificates

[1] Crowell, p. 102.

gradually came into vogue. They were first used in the southern states about the time of the panic of 1873. The courts originally permitted such loans only in cases of extreme necessity and for specifically defined purposes. But it speedily developed that in order to obtain additional capital these certificates must take precedence even over the first-mortgage bonds, as a prior lien both on assets and earnings. The Wabash receivership of 1884 contributed to the development of this type of emergency financing. The court, despite protest from the bondholders against a large issue of certificates being placed ahead of their claims, still recognized their validity, inasmuch as they were intended for the settlement of back claims against the property as a whole. Little by little the same superiority in lien over outstanding bonds has become attached to the issue of certificates for a number of general purposes.[1] At first allowed only to pay claims for wages and supplies or past advances of interest by bankers, certificates have been permitted for construction of additional mileage, the purchase of new rolling stock, for general betterment or the redemption of pledged securities.

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[1] *Cf.* Cleveland and Powell, p. 244, for instances.

securities of this sort has heretofore depended entirely upon their priority of lien over all pre-existing obligations. But somewhat of a shock to the established practice was afforded in 1913, when the Atlanta, Birmingham & Atlantic actually defaulted on its receivers' certificates. This was, to be sure, an exaggerated case of such financing; inasmuch as fixed charges had always been excessive, rolling stock was controlled by equipment trust note holders, and necessary terminals were independently owned.[1] There is certainly danger to investors as well as to the railroad of an excessive issue of securities of this type.

Various abuses in connection with receivership gradually developed in the course of time. Much of the practice evolved in absence of statutory enactment.[2] The original rule was that the receiver should be a disinterested person; but the necessity of technical training and of familiarity with the property soon led to the continuation of control under receivership by the same persons responsible for the failure. Swain, for example, found that in 80 out of 150 cases within a generation, the former president of the road was appointed receiver; while in 58 other instances higher officers of the company served in this capacity. It was inevitable, perhaps, that the stockholders should be unduly represented in absence of any formal organization of the creditors' interest.[3] But the anomaly of rehabilitation intrusted to the very same persons who had brought about the failure, is difficult to defend. Frequent petitions for the removal of such receivers led to their discharge; as, for example, in the "Frisco" case of 1913. This difficulty was sometimes avoided by the appointment of two receivers, one technically familiar with the property, the other representing the creditors. A cognate abuse has had to do with secret and preferential arrangements. The Atchison receivership in 1894 was of this sort. Out of such conditions also

[1] P. 27, *supra*.

[2] Swain, *op. cit.*, p. 57.

[3] *Economist*, vol. LII, 1894, p. 140.

arose the peculiarly American practice of the so-called "friendly receiver"; for which a precedent was set in 1884, when the [old] Wabash itself applied for a receiver in order to forestall dismemberment by foreclosure. Neither bondholders nor general creditors were represented in these proceedings.[1] And then again, serious difficulty, verging upon scandal, appeared in connection with conflicts of jurisdiction in the courts. Tangles of this sort often became extremely involved. On the Northern Pacific in 1895 three separate sets of receivers in as many different groups of states, finally compelled the Supreme Court of the United States to intervene.[2] Remedial legislation by the Federal government has at various times been proposed.[3] But, on the whole, an enlightened public opinion and a higher type of judiciary has tended of late to bring about a considerable improvement in practice.

Receivership is terminated by judicial order, either upon settlement of the controversy, whatever it may be, or upon abandonment of the property to the creditors through foreclosure sale. If this latter course be unnecessary to reorganization, the receiver is dismissed and the property is restored to the control of the stockholders. Whenever such foreclosure occurs, however, it is customary for the court to name a minimum price. Then upon the completion of a reorganization plan, the various transactions are confirmed by judicial order. And the receivership ends upon the delivery of the property to those duly authorized to succeed in management.

In financial reorganization, as distinct from receivership, the most striking feature at the outset is the flat conflict of interests involved. Rival claims of every conceivable sort

[1] Swain, *op. cit.*, p. 91, traces the development of friendly receivership; Presidential Address, American Bar Association, 1896; *Harvard Law Review*, vol. X, p. 139.

[2] Daggett, *op. cit.*, p. 301; Cleveland, p. 238.

[3] Ann. Rep., I. C. C., 1900, p. 83; on the Cullom-Straus bill, *Bradstreets*, vol. XX, p. 564; and *The Forum*, vol. XVII, pp. 19 and 676.

press for settlement. The variety of these types of obligations has already been emphasized in our earlier chapters upon stocks and bonds. In the Wabash reorganization of 1884, no fewer than 38 distinct mortgages were lined up for consideration; on the Atchison, five years later, there were 41 issues of bonds alone. Over and above these, perhaps, are representatives in order of precedence; of liens for wages, receivers' certificates, short-term notes and floating debt. As for the priority of due bills constituting the floating debt, this depends largely upon their character. All of these claimants stand at last face to face. But the necessity for immediate satisfaction of employees' liens and receivers' certificates soon leads to their elimination. Some of the general creditors may also be paid off. Owners of receivers' certificates occupy, as we have seen, an impregnable position; and holders of equipment trust notes must be satisfied, under penalty of withdrawal of the mortgaged rolling stock.[1] This would cripple the property too seriously to be permitted. For the long pull, therefore, negotiations over the reorganization plan, narrow down practically to the three groups of senior bondholders, owners of junior securities and stockholders.

The various interests concerned in reorganization commonly crystallize into a number of more or less self-constituted bodies for purposes of negotiation. In a difficult situation, as on the Union Pacific in 1893, no fewer than fifteen such committees arose, fourteen of them representing not over two classes of bonds each. In the Reading reorganization of 1884–'86, two committees of bondholders and seven reorganization trustees representing the foreign creditors, the first mortgage and the income and junior bonds as well as the stock, were confronted by a general opposition committee, critical and suspicious. The pending "Frisco" reorganization lately took place under negotiations between nine distinct committees. Such bodies under reorganization proceedings seldom

[1] P. 171, *supra*.

include representation of the stockholders who are more apt to organize separately in case of receivership.[1] Yet occasionally, as in the Texas & Pacific reorganization of 1886, an unfair assessment on the stock may be substantially reduced through such a committee. The more general its composition, the greater the influence which may be exerted by organized effort on the course of affairs. Usually, however, the old management, particularly when held responsible for the failure, is excluded. On the Wabash in 1914, the bondholders took charge in place of the stockholders, through election of their representatives as the executive committee of the board, as an alternative for receivership and foreclosure. The Atchison reorganization of 1889 was a marked exception, in that the reorganization was proposed by the former directors, certainly tainted by self-interest, and had to be all done over a few years later. Aside from the bankers, necessarily interested as underwriters of the new securities, these committees may contain representatives of other and competing railroads. Thus the Kansas City, Mexico & Orient reorganization at the present time[2] will doubtless be influenced by committee members either seeking to get control for the Southern Pacific, or contrariwise, holding in contemplation the continuance of an independent property affording connections into the southwest for all those roads from the northeast which would otherwise be bottled up at Kansas City. In such manner does railroad strategy enter into the deliberations of what might otherwise seem to be purely financial bodies. The inevitable outcome of it all is compromise. An adjustment is reached, partly on the basis of the constructive power of the majority, and partly through the weight of obstructive tactics at the hands of the minority.

Senior bondholders with a lien on the main stem or property essential for operation, such as terminals, naturally occupy the strongest position. Their claims may conceivably be

[1] *Economist*, vol. LII, 1894, p. 140. [2] P. 48, *supra*.

satisfied by immediate foreclosure, in which case they would be favored through the right to turn in their bonds in part payment of the purchase price. A veritable bargain might be had under such circumstances. And yet the fact that few railroads would realize at forced sale even the face value of their first mortgages, predisposes even the senior bondholders to caution. As for the owners of junior bonds and securities, foreclosure sale would be even more prejudicial to their interest than to senior claimants. They may not wish to bid in the property and yet may conceivably find it necessary to do so. The anomaly of their status is evident in the practice, once common, of treating them like stockholders, that is to say, partners in the equity, through subjecting them to an assessment. More logically, nowadays, they are considered as having the right to treatment similar to that of the senior bondholders. An alternative would be to induce senior bondholders to postpone foreclosure upon guarantee of payment of their interest due. Most vulnerable of all are the stockholders. As representing only the equity over and above indebtedness, they usually have little voice in reorganization plans. They must often submit to the most onerous conditions, inasmuch as foreclosure would wipe out their investment entirely. On equitable grounds, it should be remembered that the stockholder's right to consideration is by no means represented by the face value of his holdings. Concessions must be made by all; but in fairness they should be proportioned to the actual original investment. Most stocks in roads of the class subject to reorganization have been avowedly speculative in character, were bought as such at low market prices owing to the risks involved, and must submit without murmur to the fortunes of war. Yet occasionally stockholders are strongly represented and are able to extort unduly favorable treatment. The first plan more often favors them, as on the Richmond Terminal in 1891 and the Erie two years later; [1]

[1] Daggett, *op. cit.*, pp. 173 and 63.

but such an outcome as the Atchison '89 affair, which left the control of the road entirely in a valueless capital stock, is fortunately infrequent.[1]

The necessities of an insolvent property naturally subdivide into two groups: those, namely, which are immediate, as distinct from those which are merely prospective. First of all among the former, the floating debt must be cared for: while among the prospective needs the main items are; provision for working capital and betterment, permanent reduction of fixed charges, and the removal of hampering restrictions.

Immediate settlement of the floating debt is imperative. It is this last straw, probably, which breaks the camel's back. Loans of all sorts are based upon collateral which can be saved from sacrifice at forced sale only by prompt payment of the principal. Refusal of bankers to renew short-term notes at a critical time has often precipitated receivership. We have seen how the Erie was barely saved in 1908; and how in 1914 the New England roads escaped with difficulty upon maturity of their notes.[2] The floating debt of an embarrassed property has almost always acquired large proportions. The Northern Pacific in 1893 owed $15,000,000; the Reading in 1895 almost as much; the Atchison in 1893 had accumulated a floating debt of $16,000,000; and the Baltimore & Ohio by 1896 had to have $36,000,000 at once.[3] Such obligations are naturally carried at excessive rates of interest. The Atchison for five years paid over $1,000,000 in discounts and commissions for the renewal of $9,000,000 in notes. It is evident that default in interest or principal upon obligations of this class immediately precipitates trouble. This can be averted only by the prompt provision of large sums in cash to clear away the accumulated rubbish.

Next in order, after the provision of cash under reorganization for the immediate settlement of floating indebtedness,

[1] *Railroad Gazette*, 1895, p. 252.

[2] P. 169, *supra*.

[3] Daggett, p. 348; Meade, p. 207.

comes the fiscal necessity of supplying working capital, together with such new moneys for betterment as shall bring about more economical operation in future. For, in all probability, a high operating cost due to inadequate facilities, themselves in turn a product of exhausted credit, contributed materially to the *débâcle*. Every reorganization, consequently, has as one of its most important details, the provision of ample funds for this purpose. But, so far as betterment is concerned, the programme differs from settlement of the floating debt in that the burden may be spread over a considerable period of time ahead. Proceedings now on foot illustrate the importance of this feature. For working capital and betterment alone, the latest Wabash plan calls for $30,000,000; the "Frisco" $60,000,000; the Rock Island $30,000,000 and the Missouri Pacific $35,000,000–$50,000,000.[1] Any plan which is deficient in this regard is as surely foredoomed to failure as if it had not even taken care of the floating debt. Thus, for example, partly because of this defect, did the Atchison reorganization of '89 have to be all done over again five years later.[2] Such expenditures are usually specifically defined and restricted by way of a reserve of securities to be issued from time to time. For in absence of such limitation, there would be no guarantee against a repetition of the extravagance or over-expansion which brought about the reorganization in the first instance.

A permanent reduction in fixed charges, that is to say interest on the funded debt, is the next essential of any successful reorganization plan. Without it trouble is not averted; it is only postponed. Thus the Richmond Terminal plan of 1893! Emphasis has already been laid upon the danger resident in an overload of bonds.[3] A comparison between two groups of railroads in this respect, those namely which safely weathered the panic of 1893 and those which went to the wall, confirms this point. Eight companies which failed and went through

[1] All abandoned in 1914 on account of the European wars.
[2] Daggett, p. 203. [3] P. 108, *supra*.

reorganization had fixed charges commonly above 30, and in three cases as high as 45 per cent. of gross income; while for an equal number of stronger roads, interest on funded indebtedness attained in only one instance the modest proportion of one-fourth of their gross earnings.[1] Recent cases of distress soundly reinforce the principle. What else than failure, ultimately, could be expected of a railroad like the Atlanta, Birmingham & Atlantic which was launched upon its career with fixed charges equal to three times its earnings? It should have been equally plain that no company could long continue on the path of the Rock Island; which during a dozen years to 1914 raised not a dollar on new capital from stock, but borrowed $118,000,000 in bonds. Its *Railway* company proper with $266,000,000 of bonds and only $75,000,000 of stock outstanding, has been already instanced as manifestly top-heavy.[2] The Wabash, also, for a decade has never enjoyed a margin of safety greater than 10 per cent. It has already been stated as a general rule that any road whose fixed charges absorb so high a proportion of earnings, deserves scrutiny and invites distrust as to its solvency. There is only one course open under such circumstances. A downright and substantial reduction of fixed charges is unavoidable. A drastic reduction of the principal of the funded indebtedness is imperative.

Incidentally, an attendant of reorganization of minor importance but deserving mention, is the elimination of embarrassing restrictions upon freedom of action, whether or not in the domain of finance. Unfair leases like the Wisconsin Central to the Northern Pacific in 1893, or burdensome rentals like those of the subsidiary companies in the Boston & Maine in 1914, may be abrogated; complicated entanglements, as between the Wabash and the Pittsburgh Terminal of recent date, may be dissolved; troublesome traffic contracts, as on the Wheeling & Lake Erie in 1914, or agreements like the Pullman and the American Express Company contracts on the Boston & Maine,

[1] Daggett, p. 342. [2] P. 152, *supra*.

now in litigation, may be cancelled; unprofitable branches may be lopped off; securities like the Atchison income bonds of 1889, blocking the way to further advantageous financing, may be retired; superfluous corporations like the two Rock Island holding companies, together with their by-laws which obstructed the issue of junior bonds, may be obliterated; in short, a general house-cleaning may incidentally take place. Along with this, as will be seen shortly, is the collateral advantage of a great simplification of outstanding capitalization, all of which makes for advantageous financing in future.

How shall the foregoing primary ends, discharge of the floating debt, provision of working capital, and funds for betterment, be obtained without at the same time increasing the burden of fixed charges? This last imperative consideration stands in the way of raising new capital by further loans. Or else, if some of it must be borrowed, a portion of the present interest charges must be somehow scaled down, either by cancellation of existing indebtedness or by exchanging it for some other form of security, the return upon which is no longer fixed, but merely contingent upon being earned. But before turning to such expedients, it would appear as if recourse might be had to the customary procedure in like commercial predicaments. Why not first raise money by the sale of treasury assets, if any there be. Meade has forcibly stated the objections.[1] These are: first, that it would be poor business policy, and secondly that it would be unlawful; — unwise, inasmuch as, generally speaking, such assets consist of securities of branch lines, terminals or other important adjuncts to the earning power of the system; — unlawful, as lessening the security to which creditors are entitled for protection of their loans. Hence the violent opposition in 1893 to liquidating the unwieldy Northern Pacific floating debt by the sale of a portion of its main line. It is certainly open to question whether in 1914 the rights of creditors of the embarrassed Boston & Maine, particularly short-term

[1] P. 215, *supra*.

note holders, were not violated by the sale of its majority holdings of Maine Central stock.[1] The crucial point seems to be the effect of the sale of such treasury assets upon the earning power of the system. If the proceeds of the sale can be entirely applied to cancellation of threatening indebtedness, without at the same time lessening the economy of operation — that is to say, if the securities sold are really free assets — no harm will be done. Thus in 1893 the Baltimore & Ohio jettisoned its Western Union Telegraph stock. Similar relief was earnestly advocated for the New Haven in 1914 through sale of its trolley properties, as a means of meeting its maturing short-term notes.[2] But little benefit can commonly be derived from such sources, by reason of the depressed state of the markets in general, and of all securities associated with an embarrassed railroad in particular, — to say nothing of the chance of rival systems stealing a march upon the property during the confusion.

There are two contrasting sides to all reorganization plans, according as the new funds required are raised from within or without the body of security holders of the embarrassed property. On the one hand, an assessment may be levied upon the stock or bondholders or, what amounts to the same thing, a compulsory subscription to new securities may be required of them under penalty of forfeiture of their equity; or, on the other, the requisite capital may be raised by an offering of securities to the outside public. Experience, on the whole, tends to show that the main reliance must be upon the existing security holders; inasmuch as outside offerings for cash to the general public must be at such ruinous discounts as to preclude their use. Not infrequently, however, some portion of the new money may be raised from the outside, especially with support from a powerful underwriting syndicate.[3] Of fourteen reorganizations analyzed by Daggett, four provided cash by assessment alone, three by public sale of securities, and five by a

[1] P. 147, *supra*. [2] P. 169, *supra*.

[3] Daggett, p. 355, cites failures of outside offerings, with examples of partial resort to such means.

combination of the two. Much depends upon the general condition of the country at the time. During fair weather, as in the Atchison reorganization of 1889 — unique in the absence of any assessment at all — greater dependence can be placed upon outside support than if the readjustment takes place in a panic period. But interest in the main narrows down necessarily to negotiations between the three main groups of security holders already defined, as to an assessment in connection with exchange of their old holdings for new. Seldom is a compulsory payment levied without some such compensating feature. The Norfolk & Western reorganization of 1896, to be sure, was an exception — the common stockholders getting nothing in return for their assessment except a right to convert their old holdings into three-fourths of the amount in new common stock. But the general rule, more common since 1893 than in earlier cases, is that assessment with a compensating bonus of new securities lies at the foundation of any sound reorganization plan. A number of the most successful, because drastic, readjustments have relied solely upon financing from within. The Union Pacific plan of 1895 was of this type, as was also the second Atchison reorganization of the same year.

Consider the proposition for an assessment from the point of view of the stockholders. As the risk takers in the enterprise, as Meade puts it, it is but fair that they should bear the brunt of the burden. A flat alternative is presented, — total loss or assessment. If the creditors consent to waive their right of foreclosure, on condition that the road be set upon its feet for another trial, — probably also agreeing as a still further concession to scale down the principal or interest rate of their holdings, — they are equitably in position to demand that the stockholders somehow provide the funds necessary for the experiment. And, aside from the equities of the case, the incentive is strong, as a matter of prudence, to take a chance on the future — a more than even one — that somehow things will work out right in the end. As for an attempt of the stock-

holders to bid in the property under foreclosure sale, not only have the creditors great advantage through turning in their securities as part payment, but also the well-nigh insuperable difficulty would have to be overcome of having to raise enough spot cash to meet the entire funded and floating debt of the system. Paying the assessment and thereby remaining a partner in the enterprise, at all events affords this negative advantage. Yet the disinclination of stockholders to venture further in an embarrassed enterprise is a very real factor in the final determination of the feasible assessment.[1] The case differs from public sale in this: namely, that in such a case the new securities are taken at the buyer's price; whereas under an assessment the company determines what it will offer for the required cash. In practice, assessments usually vary from $5 to $20 per share. In the reorganizations attendant upon the panic of 1893, they ranged from $2 on the preferred shares of the Baltimore & Ohio, to $20 on the Reading common stock ($50 par) and income bonds. The pending reorganizations[2] propose an assessment of $15 on the Rock Island, $20 on the Wabash and $25 on the "Frisco." The Western Maryland assessment of $40 per share in 1909 was exceptionally heavy. These assessments should be weighed in terms, not of par but of the market price of the stock. Oftentimes, as on the Wabash at present, the shares are quoted at merely nominal figures, $2 or $3 a share. The price, in fact, is merely the worth of the right to participate in the new venture. A point to notice in this connection, moreover, is that considerable transfer of securities may occur during the progress of events. Quite commonly the small shareholders sell out, usually at bottom prices. And speculative manipulation in the interest of insiders, as in the Chicago Great Western reorganization of 1909, may sometimes take place.

Judgment as to the wisdom of submitting to the inevitable

[1] *Cf.* the first Rock Island plan of 1914, p. 401, *infra.*

[2] Since abandoned on account of the European wars.

and paying an assessment, even where it greatly exceeds the market price of the stock, depends upon the course of market prices within a reasonable period thereafter. Daggett has carefully analyzed this question with reference to the reorganizations of 1893–'98. Every one of them was characterized by such a levy upon stockholders. The result at first was discouraging. In every instance, one month after publication of the reorganization plan the amount of the assessment exceeded the market price, — that is to say, the assessment was more than wiped out. Quotations, less the levy, were a minus quantity. Even for preferred shares, the current quotations hardly exceeded the assessment. But after a period of six months, quotations had advanced sufficiently to more than equal the assessment plus the former price. Occasionally, as on the Baltimore & Ohio, a very substantial profit resulted. And, of course, viewed over a period of years since the '90's, the extraordinary prosperity of all these reorganized properties has recompensed the shareholders for their assessment over and over again. Indecision, nevertheless, is quite excusable in some instances. Reading stock, for example, paid a $10 assessment in 1886 on a par value of $50, and was then required to turn in $20 more ten years later in order to save the first exaction. Or take the Chicago Great Western reorganization of 1909! Interest on the senior securities had not been earned for two years, the "preferred B" stock had never received a dividend; and yet the common stock which succeeded it in claim upon earnings was assessed $15; and this, too, notwithstanding a substantial increase by the readjustment in the already excessive volume of every one of the securities which stood ahead of it. Why expect the "Frisco" common stockholders at present to be very enthusiastic about paying $25 more on an investment which was junior to an overload of bonds, as well as to the first and second preferred stock in addition. Under such circumstances great faith is indeed requisite to foresee a profit from the transaction.

The status of junior bondholders as to assessment has considerably changed within recent years. Formerly it was not uncommon to treat these securities more like partners in the enterprise than as creditors. The Reading, for instance, in 1895 assessed its income bondholders as heavily as its stockholders.[1] But there would appear to be sound reasons for exempting the junior bondholders from assessment. For unless the road were greatly demoralized, interest upon many of these secondary bonds had probably been earned. Where, however, the stockholders cannot be relied upon to provide a sufficient amount of cash, the only thing to do is to call upon junior bondholders to provide the remainder, giving them if necessary more proportionately for their money in the way of new securities. It appears wiser to do this than to incur any risk of an increase in fixed charges. Concerning the senior bondholders, little need be added. Their position, as already described, is so strong that the utmost which can be expected is that they should consent to scale down either their principal or its rate of interest. Securities, like first mortgage or divisional bonds, whose interest has been fully earned, are seldom disturbed. Thus, despite the desperate straits of the Wabash at present, almost $65,000,000 of its indebtedness is quite unaffected by the readjustment. The circumstance of interest earned, also explains why in so drastic a readjustment as the Reading in 1899, the general mortgage bondholders seemed to have everything their own way and even won certain new advantages. Such is the general rule.

Whatever else is done, fixed charges must be reduced. They must be brought well within the limits of minimum earnings. For unless the road emerges from reorganization with a wider margin of safety than before, the whole operation will have been in vain. How shall this be done? There are three ways. The

[1] The consolidated mortgage bondholders (juniors) fared rather badly on the Northern Pacific in 1896. *Cf.* Daggett, p. 305; also the rejected Erie plans, p. 69.

rate of interest on bonds may be scaled down; the principal of the indebtedness may be reduced or the lien of bonds lessened; or new securities with charges contingent upon earnings may be exchanged for the old fixed-interest-bearing bonds. The first of these expedients, scaling the rate of interest, was the earliest and simplest device. Thus, in 1897 the Colorado Midland bondholders agreed to a reduction from 6 to 4 per cent. This was the fundamental feature of the Baltimore & Ohio readjustment of 1898, the principal of bonded indebtedness being actually increased. The concession in interest is sometimes temporary. Thus did the Atchison in 1895 permit exchange of its old general mortgage bonds for 75 per cent. of like securities, together with 40 per cent. in bonds dependent upon income for five years but thereafter restored to the original rate.

Reduction of the principal or modification in the lien of indebtedness is the second way to reduce fixed charges. Holders of the Rock Island Company collateral trust bonds under one of the proposed plans for reorganization[1] consented to accept 62.5 per cent. of the face value of their claims in the common stock of the railway company, — the underlying operating concern. By paying an assessment of 15 per cent., they might receive in addition an equal per cent. of the same common shares, together with a bonus of new preferred shares. But positive diminution of the face value of creditors' claims is not common. As Daggett observes, there is a magic in par value which affords a certain consolation to those from whom sacrifices in interest are demanded. An unimpaired principal, moreover, is a real advantage on maturity of the loan. For both of which reasons an actual increase of par value is more common than a reduction. Thus did the Northern Pacific plan of 1896 reduce the rate of interest, to be sure, but it gave in exchange $1,350 for each $1,000 bond of old securities of equal rank. In the now-abandoned Wabash reorganization of 1914,

[1] P. 153, *supra*. — Probably now abandoned by reason of the European wars.

junior creditors would have received 110 per cent. of the face value of their claims in new income bonds.

The essential point in the exchange of securities, with or without an assessment, is that the new issues shall be entitled to a return if earned and not otherwise. This may be done as in the Erie plan of 1896 by causing the former creditors to exchange their securities for a smaller amount of bonds, affording solace for the reduction in face value by a bonus of preferred stock. The present Rock Island reorganization is along similar lines, in that preferred stock is being utilized as the new capital resource. Income bonds, as we have already seen,[1] used to be common as a substitute for reduced principal; but after the unfortunate Atchison experience in 1889 have fallen into comparative disfavor. Preferred shares have every virtue of an income bond without its disadvantages. It is this experience which lends peculiar interest to the revival of the income bond for such purposes in the latest Wabash reorganization,[2]—$14,000,000 of new adjustment income bonds being proposed in exchange for old junior mortgages. How such a disregard of established practice will work out, remains to be seen. As for the precise rate of exchange of the old for the new, that must ever be a matter of arithmetic as well as of strategy. Evidently the equitable principle should be, not mere equality of face value, since that affords no criterion of the original investment, but an undiminished annual income, conditional upon its being earned so soon as circumstances warrant.

Inasmuch as the success of a reorganization depends so largely upon ensuring a wider margin of safety through substitution of new contingent for old fixed charges, a few significant achievements in this direction may be cited. Very marked improvement is to be noted in the experience since 1893. The results appear in the following table.[3] Seven important read-

[1] P. 139, *supra*.
[2] Now abandoned.
[3] Daggett, p. 357.

FIXED CHARGES

	Before reorg'n	After reorg'n
Northern Pacific, 1895	$13,814,000	$ 6,762,000
Seven roads, 1893–'98	65,984,000	45,576,000
Seven roads before 1893	43,276,000	43,449,000

justments dating from that panic made a reduction of nearly one-third in the burden of fixed charges, ranging all the way from the Northern Pacific plan which cut interest requirements in half, to the Erie which improved matters but little in that regard.[1] The contrast with reorganizations prior to 1893 is very marked. The earlier record is most irregular. But in several instances the interest requirements were actually increased. The Reading reorganization of 1880 enhanced them by almost 50 per cent. But fortunately the latest readjustments, such as the latest Wabash plan which cuts fixed charges in halves, may be said to embody the most approved modern practice.[2]

An essential of sound reorganization is a guarantee that the company be allowed to work out its salvation during a reasonable period of time under control of those having a constructive interest in the permanent success of the plan. Early readjustments often contain provisions for the protection of bondholders; but it has now come to be seen that shareholders also are deeply concerned. The most effective safeguard for a conservative and permanent upbuilding is the creation of a voting trust. The most recent reorganization committees generally have insisted that shareholders shall execute irrevocable proxies for their holdings in favor of a body of voting trustees, generally five in number. The experience of 1893 has emphasized the need

[1] Certain of the rejected Erie plans actually increased fixed charges. *Cf.* Daggett, p. 359.

[2] Decreased rentals as a form of reduced fixed charges are often brought about through absorption of leased lines into the main system. *Cf.* Daggett, p. 369 *et seq.*

of some such safeguard. Five out of seven of the important readjustments since then created voting trusts. One set up a proxy committee. Occasionally such devices may be used merely to concentrate holdings and thereby to enhance the influence of a particular issue in management. This was done on the Baltimore & Ohio in 1892 and the Oregon Railway & Navigation Company three years later. Harriman's use of voting trusts in connection with his life insurance company pools is also familiar history.[1] But the main purpose of the voting trust is to pilot a reorganized road through the first critical years of trial. After a stated term, say five years, or upon continued payment of dividends, the trust is resolved and the shares go back to their owners. Sometimes, however, a grip in the interest of creditors is held even after this time, especially where preferred shares have been given in exchange for former bonds. Thus, under the Northern Pacific and Norfolk & Western reorganizations of 1896, even after termination of the voting trust, preferred shareholders might assume control of the directorate upon lapse of the prescribed dividend.

After a reorganization plan is once formulated the details of procedure follow a certain routine. There is first the deposit of securities by the assenting owners. Thereafter, where foreclosure occurs, the bondholders bid in the property at auction sale; and then the new securities, already so far as offered to the general public underwritten by subscribing bankers, are put upon the market. A point also to be noted is the growing importance of banking control and influence whenever reorganization takes place. One of the unfortunate circumstances attendant upon the widespread readjustments of 1893 was the passage of railroad management from the hands of practical railroad men into the hands of great New York financiers. Executive committees, as on the Harriman and New Haven roads, constituted of dummies, practically usurped the normal functions of the boards of directors. One cause for the failure

[1] Page 138, *infra*.

of the community of interest plans of 1901[1] was the recognition by the courtesy—exchange directors of the fact that the real source of power was in the innermost financial circles; while the general boards of directors merely registered and formally approved of their policies.

Financial failure of a railroad usually disintegrates it physically. Under receivership a system tends to go to pieces, through lopping off of unprofitable branches or else independent receivership for its different parts.[2] Reorganization, contrariwise, tends to bring these units together again. All of the important roads which failed about 1893, with the exception of the Erie, were more or less dismembered. Thus was the Atchison bereft of the Colorado Midland and the "Frisco"; the Northern Pacific lost the Wisconsin Central; and the Union Pacific went all to pieces. The mileage of this last property was, in fact, almost cut in halves. In similar fashion the Wabash at the present time is cut loose both from the Wheeling & Lake Erie and the Pittsburg Terminal roads; and the "Frisco," in turn, loses both its Chicago connection and its Texas properties. The tables are turned completely under reorganization. A constructive policy succeeds disruption. The Union Pacific promptly regained control of its auxiliaries.[3] The Southern Railway after 1894 was soon reconstituted; the Northern Pacific by the reorganization of 1896 added almost 1,000 miles of line; and the Erie a year earlier was more than doubled. These results are commonly brought about by a positive merger of the parent company with its subsidiaries. The Seaboard Air Line readjustment of 1909 was of this sort. The Kansas City, Pittsburg & Gulf in 1900 was physically rebuilt and also structurally solidified throughout. In fact, an important coincident advantage of reorganization is the substitution of a simple and unified financial structure for the heterogeneous welter of the preceding

[1] P. 424, *infra*.
[2] *Cf.* Greene, Corporation Finance, p. 70.
[3] P. 501, *infra*.

period of degeneration. In 1894 thirty corporations, each with its own board of directors, was abolished on the Southern system. The Northern Pacific two years later merged 54 distinct corporations in one. The Atchison reduced 41 issues of bonds to two. All told, seven leading reorganizations of 1893, as a correlative result substituted 90 distinct bond issues for 189 preceding ones. Probably one of the best things which could happen to roads like the New Haven at present would be to put it through the mill and grind out a standardized set of securities of a unified railroad corporation.

An anomalous feature of reorganization emanates from the foregoing exchange of new for old securities. The necessity of affording solace to bondholders for substitution of claims conditional upon earnings for the former fixed requirements has brought about almost always a positive increase in the total outstanding capitalization of reorganized properties. Over 35,000 miles of reorganized line in 1900 had successfully reduced fixed charges by 29 per cent., but at a cost of enhanced total capitalization of 13 per cent. Study the following figures.[1]

PER CENT. OF EACH GROUP OF SECURITIES TO TOTAL OLD CAPITALIZATION

	Before Reorganization				*After Reorganization*			
	Bonds	Pref. St.	Com. St.	Total	Bonds	Pref. St.	Com. St.	Total
Nor. Pacific, '96.	61.	16.5	22.4	100	71.3	34.2	36.5	142.
B. & O., '98	72.9	4.5	22.5	100	121.3	35.4	31.6	188.3
Seven roads, reorg. 1893–'98..	65.8	4.6	29.5	100	59.1	33.6	39.2	132.
Seven roads, reorg. before 1893	62.5	1.7	35.7	100	73.9	2.8	37.6	114.4

The reorganizations of 1893–'8 bear out the same conclusion. Every one increased the total amount of stocks and bonds, as

[1] Daggett, p. 373.

much even as 88 per cent. on the Baltimore & Ohio in 1898. The average increase in capitalization after 1893 was nearly one-third, — more than double the increase for the earlier period.[1] These later securities, to be sure, were more commonly stocks, whereas the earlier ones were bonds. But it still seems paradoxical enough that properties which were thrown into reorganization, most commonly by an over-issue of securities, should emerge therefrom with a larger aggregate of stocks and bonds than ever before. The testimony of Woodlock, a financial expert, before the United States Industrial Commission, describes the situation.

"There was no necessity to issue all that stuff. It is a wrong principle. What Mr. Morgan did in all his reorganizations was to estimate the minimum of earning capacity and take care to get the fixed charges down to that, but when he came to charges that were not fixed, or to securities dependent on future prospects, people could pretty much help themselves."[2]

It is rather a hopeful sign that the Wabash reorganization, now under way, actually reduces the total capitalization of this property by $10,000,000; and that the pending Rock Island plan provides for cancelling $357,000,000 of securities in holding companies which uselessly duplicate one another. How far this is due to the attitude of the newly created public service commissions [3] in the different states, and how far it results from an intelligent interpretation of past experience, remains to be seen.

General principles may now be reviewed. An abundant provision of cash, as we have already seen, must be made in any reorganization in order to clear the ground of the rubbish

[1] In the "Frisco" reorganization of 1896 one old $1,000 bond, a $100 cash assessment, and $670 subscribed for new bonds, entitled one to receive $670 in new bonds and $5,285 in new stock. 63rd Cong., 2nd sess., Senate doc., No. 373, p. 38.

[2] Report vol. IX, 1900, p. 456.

[3] P. 291, *supra;* especially the Nebraska and New York cases and the pending Père Marquette proceedings in Michigan. All are since abandoned because of the European war.

of floating debt and make way for constructive financing. Patchwork does not pay. Even stockholders, upon whom the brunt of a heavy assessment must primarily fall, will be better off in the long run than if the difficulty had not been faced bravely at the start. The Atchison shareholders in 1889, had they paid an assessment rather than to permit a large volume of new bonds to be interposed as a lien upon earnings ahead of them, might thus have escaped another reorganization six years afterward. And then, of course, the burden of raising plenty of cash should be distributed in proportion to the amounts originally invested as well as according to the seniority of lien. Stockholders must bear the main weight; junior bondholders only so far as their claim upon earnings is endangered. Correlated with this first principle is also the necessity of making ample provision for the capital needs of the future. Not only must resources be directly provided; the hands of the management must not be so tied up by restrictions as to preclude additional issues in case of need. The future, in other words, must not be sacrificed for the sake of the present. The unfortunate Atchison experience of 1889 is again instructive in this connection. A positive bar to any new financing was set up by the terms of indenture of the income bonds. The embarrassment due to the Rock Island by-laws which forbade the issuance of any new bonds junior to the refunding 4s, should serve also as a warning to others. Brakes must undoubtedly be set against overborrowing; but at the same time the road must sometimes have elastic and independent financial means as a last resort. A primary resource for the future, it goes without saying, is the preservation of credit upon the highest possible plane. This means a conservative dividend policy. Without it, all other reliance comes to naught. As late as 1909 the Western Maryland was drastically reorganized with a 40 per cent. assessment upon stockholders. Yet what is the use of such extreme measures, if by premature resumption of dividends all improvements have to be financed by short-term notes and floating

indebtedness? The short interval of six years now brings it face to face with renewed receivership. Of what use is medical treatment, unless the patient once more on foot refrain from excess!

Sound reorganization demands a reduction of fixed charges, no matter how drastic, well within the minimum of earnings under the old management. Experience is dotted with embarrassment if not actual repetition of failure, arising from too narrow a margin of safety. As the stockholders bore their burden of assessment for cash, so here is sacrifice demanded of the bondholders in their turn. Let them have, if you please, the first-fruits of operation, as interest; but be assured that such requirements are fully covered by earnings. The Erie, ever since under reorganization in 1876 it actually increased its fixed charges even to the extent of funding interest due, has continually been exposed to the danger of repetition of this offence. The four successive plans leading up to the readjustment of 1896, were a campaign of education proving how difficult it is to avoid this habit, once it is contracted. The Richmond Terminal reorganization of 1894, and those of the Reading and the Northern Pacific in the two succeeding years, seem all alike to have achieved salvation; but their calling and election would have been more sure, had the reduction of fixed charges been drastic to a degree. The Cincinnati, Hamilton & Dayton, after only five years since its last reorganization, is again in receivers' hands in 1914, because this detail of the readjustment was not properly settled. But this particular operation was carried out in the interest of stockholders without much regard to the creditors. So, what else could be expected? In the same connection, fixed rentals, of course, should either be transformed into leases based upon earnings, or else subsidiary companies should be merged through exchange for securities of a type contingent upon earnings.

A lesson not yet learned, but now certain to be drilled home under present-day conditions of state regulation,[1] is that the

[1] *Cf.* p. 281, *supra.*

total capitalization of a reorganized property must not exceed, and ought properly to be less than, the capitalization of its predecessor. In other words, financial readjustment should apply a reasonable corrective to the constant tendency among railroads in distress to the overissue of securities in proportion to assets. This point has been already strongly emphasized, but it will bear reiteration. Above all the gross volume of mortgage indebtedness ought never to be increased. To permit the Baltimore & Ohio in the wake of financial collapse in 1898 to emit a larger amount of bonds than ever before, was a financial blunder, not commuted by the fact that an outburst of general prosperity obscured the real facts of the case. Equally indefensible in the Richmond Terminal reorganization, four years earlier, was the grant to stockholders of mortgage bonds for one-fourth of their assessment. The concession of bonds to stockholders is as unsound financiering as the funding of coupons due. Even worse in this regard was the Reading reorganization of 1896, which replaced preferred stock by income bonds, funded unpaid interest, and in return for the full amount of stockholders' assessment created a new mortgage. No corporation after such financial offences could have survived unscathed without some such resource as the monopoly of an indispensable commodity like anthracite. Some one must pay the price. In this instance it happens to be the consumers of hard coal throughout the United States.[1]

In conclusion, the Reading reorganization, just mentioned, draws attention to the fact that everything depends upon the course of general business during the critical years immediately succeeding the readjustment. A number of the great reorganizations of 1893–'98, such as that of the Atchison, the Union Pacific and even the Erie, on the whole embodied the soundest practice in finance and well deserved their subsequent success. But a number of others of the same period have succeeded, not because they deserved it, but because in view of the succeeding

[1] Chapter XVI, *infra*.

to the holding or finance corporation. As one of the most fertile sources of corporate abuse as well as perhaps the most common mode of consolidation in recent years, this last form may well be reserved for special attention, after the others have been discussed. Pooling is sufficiently distinct to require treatment in a chapter by itself. It is not without interest to note, moreover, that three of these contrivances, namely community of interest, the holding company and the collateral trust bond are distinctively American inventions, associated mainly with the spirited course of events for two years after 1899. Much of the time since then has been devoted to undoing the so-called "high finance" of that interesting period.

Merger of railroad companies, — that is to say the resolution of their several corporate existences into a single organization — is open to several objections. These are as important from a purely private as from a public point of view. In the first place, such an act is final. Once taken it can never be rescinded. One cannot unscramble an egg. Moreover, merger must be by unanimous consent. The approval of every share of stock is necessary before the former corporations can be obliterated. This is in itself often a serious practical difficulty in the case of companies with widely or anciently disseminated ownership. Downright merger may also render mortgage bonding of specific possessions difficult in the case of corporations having outstanding issues of general or "blanket" bonds.[1] And, what is often of great moment, it involves

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[1] *Cf.* p. 124, *supra*, as also Lyon, Capitalization, p. 126.

CHAPTER XIII

INTERCORPORATE RELATIONS

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THE modes of effecting combination among railroads, roughly classified, are five in number.[1] They are actual merger or amalgamation; lease; through persons; by means of traffic agreements or construction advances; and most important of all, through stock ownership. The last of these may be either direct or indirect; in the latter case giving rise

[1] The best official reference is (F. H. Dixon) Special Report I. C. C., on Intercorporate Relations of Railways, 1908; summarized by the author

to the holding or finance corporation. As one of the most fertile sources of corporate abuse as well as perhaps the most common mode of consolidation in recent years, this last form may well be reserved for special attention, after the others have been discussed. Pooling is sufficiently distinct to require treatment in a chapter by itself. It is not without interest to note, moreover, that three of these contrivances, namely community of interest, the holding company and the collateral trust bond are distinctively American inventions, associated mainly with the spirited course of events for two years after 1899. Much of the time since then has been devoted to undoing the so-called "high finance" of that interesting period.

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the exchange of old and presumably therefore liberal charters, for a new one containing all the checks and limitations appertaining to the present-day interest in regulation of public-service companies. Sometimes, however, only the lesser company may dissolve, transferring its physical possessions by outright sale to the purchasing corporation; in which case, of course, although one old charter is relinquished, no new ones are necessary. On the other hand, merger assuredly makes for simplicity and directness in accounting; and for definite, economical, responsible and harmonious administration. It clears the decks for new corporate arrangements, disposes of a host of legal entanglements; and oftentimes thereby strengthens the corporation financially for operations of large scope and moment. As incidental to fiscal reorganization, it may be an absolute essential to the raising of any large sums of capital. Hence it often happens that such financial rearrangement amounts practically to a sort of house cleaning, clearing away a mass of intricate corporate rubbish.[1] Whether such merger is financially advantageous or not depends entirely, of course, upon the nature of the bargain. Whether it be akin to Gould's Kansas Pacific operation or the improvident attempts at consolidation on the Boston & Maine,[2] or a real financial improvement, is entirely a matter of detail. It is becoming increasingly clear in any event that the public should exercise a constant supervision over all matters of the sort.[3]

A number of important railroads have awakened of late to a sense of the desirability of simplifying their corporate

[1] On reorganization *cf.* p. 394, *supra.*

[2] P. 170, *supra.* And testimony of Hobbs, April 24, 1913.

[3] On state supervision, p. 248 *supra*, and stock-watering, p. 289 *supra.*

Actual consolidation as a public policy in the West was warmly discussed in Wisconsin in 1857–'63 in connection with the merger of the Northwestern lines. A general act was "railroaded" through the legislature, providing that consolidated companies might (1) exercise all powers in the antecedent charters, (2) increase stock to equal the combined cost of construction and equipment, and (3) that a mere majority vote of stockholders was requisite to give validity. "This fraud upon the people" was almost unanimously repealed. This bill in turn was stolen

organizations, if not of the entire system at least of the main operating companies. Tangled as were the legal affairs of the New Haven, it did succeed prior to its downfall in merging a number of subordinate steam properties. Several of the very strongest American railroads have always been simply constituted. The Chicago & Northwestern ever since its acquisition of the Iowa leased lines in 1884; the St. Paul even down to its absorption of the Puget Sound extension in 1913; the Great Northern by its merger of fourteen minor roads in 1907; all of these manifest this tendency. Altogether, it is greatly to be hoped that progress in the direction of simplification may occur in future, — if not voluntarily, then by reason of pressure from public sentiment and under governmental authority.

Consolidation forced neither by necessity nor desire, which usually mean provident financing, but in fair weather when neither party is reduced in circumstances, may result in a reckless disregard of the general welfare. Serious objection thereto from the point of view of the public may naturally arise. Primarily, such merger under the present confusing legal conditions respecting the right of our legislatures to control corporations chartered in other states, might practically leave a local public without power to regulate such common carriers in future. This was well exemplified in the experience of Massachusetts with the New Haven-Boston & Maine consolidation. The argument is well put in the Report of the Massachusetts Commission on Commerce and Industry of 1908.[1] No form of combination should be permitted which

from the files before publication. But after prolonged agitation the consolidation act was again repealed in 1864. Special statutes were thereafter necessary. The sensitiveness of public opinion and the *pros* and *cons* of the merger policy were fully discussed. *Cf.* B. H. Meyer, *Wisconsin Academy of Arts and Sciences*, vol. XII, 1892, pp. 365–378.

The situation in Ohio is described by Gephart, *Economic Studies, Columbia University*, vol. XXXIV, 1909, p. 172.

[1] P. 255, *supra;* revived in 1914 under Federal plans for dissolution. Full account of the Boston Holding Company in 31 I. C. C. Rep., 99. *Cf.* also p. 571, *infra*..

would not enable a subsequent separation of the two properties; or at all events, their continued subjection to state control. Merger in a new Massachusetts corporation was impossible without the consent and co-operation of Connecticut; and a relinquishment of the Connecticut charter was out of the question. Corporate subdivision along state lines seemed to be the only solution of the difficulty. State boundaries could be bridged only by the device of separate corporations in each state, interlocked by means of stock ownership. In carrying out this idea, then, the Massachusetts Holding Company was first incorporated under a special state charter. The New Haven road held all of its common stock. This company then proceeded to acquire a majority of Boston & Maine shares by the sale of its own non-voting preferred stock. In effect the New Haven thus controlled the other railroad; but through the medium of a Massachusetts company, under supervision of the state railroad commission. Such was the status until the general dissolution in 1914 under Federal authority.[1]

The consolidation of the tenuously constituted New York Central system in 1914 illustrates both the financial disadvantages of a loose corporate structure and the difficulty in remedying such a defect late in life. The chapter opened with the serious Park Avenue accident in the smoke-laden and antiquated tunnel approaches to New York City in 1902. It immediately became apparent through the pressure of public opinion upon the company, — for years over-capitalized and under-maintained and bettered, in order to continue excessive dividends — that comprehensive improvements, regardless of their effect upon earnings, must be undertaken. An outlay of over $80,000,000 since that time has already taken place upon these terminals alone. The financial transformation accompanying these and other developments may be indicated by the following figures. The New York Central proper in 1902 had $115,000,000 of stock and $194,000,000 of

[1] P. 571, *infra*.

bonds outstanding, without equipment mortgages, short-term notes or bills payable. At the close of 1913 the stock amounted to $225,500,000, bonds $298,700,000, equipment mortgages almost $30,000,000, short-term notes $50,000,000 and floating debt $45,000,000. In brief, within a dozen years the capitalization increased from $309,000,000 to $649,000,000 — $124,000,000 being short-time obligations. The margin of safety[1] was altogether too narrow and the rate of dividend too high. Small wonder that the stock quotations steadily declined below 80 in 1914. This mistaken financial policy was, however, not entirely of the road's own choosing. Serious embarrassment arose from the fact that the great terminal expenditures could not be distributed over the entire mileage of the system, leased or otherwise controlled. Only about one-fifth of its mileage was owned by the parent company, as against over one-half so owned on the Pennsylvania. The prime difficulty lay in the relation with the main lines west of Buffalo, notably the Lake Shore road. This magnificent property had, as we have already seen,[2] been acquired in 1898 by the purchase of a controlling interest in its share capital through exchange for New York Central collateral trust bonds, secured by deposit of this stock. But the indenture of the mortgage was so iron-clad that no future loans might be contracted by the parent company without acknowledgment of a priority of lien on the part of these Lake Shore collateral trust bonds.[3] An added complication was a provision of the New York Savings Bank law forbidding investment in new railway mortgages, unless secured by a mileage exceeding by one-fourth any prior liens. The Harlem Railroad, also fundamentally important for the development of adequate approaches to New York City, had been leased in 1873 for 401 years without any provision whatever for participation in joint additions and

[1] P. 87, *supra.*

[2] P. 146, *supra.*

[3] *Cf. Railway Age Gazette,* vol. LV, 1913, p. 14; and White and Kemble's admirable Atlas of Railway Mortgages, on details of various issues.

betterments. Hence it followed that in face of the general distress among American railroads, the New York Central found itself almost completely estopped from the issuance of long-time bonds suitable for financing its needs. It was forced into the pursuance of a hand-to-mouth financial policy.

All these difficulties had to be overcome by substituting a simple corporate structure for the existing complicated one. The Lake Shore, earning 35 per cent. net and so far hampered by its own indentures that no mortgages had been incurred for many years, was, to be sure, a magnificent possession. But how to make its superb credit available for the needs of the entire system, in which it shared with all the rest, was the problem. The first step in reorganization was to secure the assent of the old Lake Shore collateral trust bondholders, contented as they were with a gilt-edged 3½ per cent. possession. Four per cent. in bonds of equal security was the price of their approval. Such consent need not have been thus purchased had a provision for retirement been incorporated in the original indenture. Then the complicated provisions of the Savings Bank law, above mentioned, had also to be kept in mind. And, last but not least, consent of the remaining one-tenth of Lake Shore stockholders who had never exchanged their holdings for New York Central bonds, had to be secured. This was purchased by an offer of five to one in stock of the new consolidated road.[1] But at last in 1914 all of the necessary steps to corporate merger seem to have been taken. A single $300,000,000 refunding mortgage covering the unified properties in the entire system is approved. With revival of prosperity better things for the future seem to be promised.[2]

Consolidation by means of lease between two companies, each of which retains all of its corporate powers except in so

[1] 3 P. S. C. (N. Y. 2nd D., 183, etc.), on official proceedings. Obstructive proceedings in the courts also occurred.

[2] On the New Jersey disapproval of indebtedness possibly double the capital stock, *cf.* p. 307–'09, *supra*.

far as they may be limited by the terms of the contract, may range all the way from a loose temporary connection to what amounts virtually to merger. Superficially, each corporation remains free to act as it will respecting such matters as direction or dividends; the use of certain physical property is merely given over for a stated period. In this respect it has been urged that lease in effect does not really constitute control. Yet on the other hand, few leases are drawn which do not bring about practical consolidation. Most of them are either in perpetuity, or for very long periods, such as the West Shore lease to the New York Central for 475 years. Ninety-nine years is a common term, although it is sometimes ten times as long. Most leases, moreover, are coupled with the ownership by the lessee of more or less stock in the lessor corporation. Oftentimes practically all the capital stock is thus held. In such cases, of course, the term of the lease is a matter of no consequence; inasmuch as the stock of the lessor can at any time be voted in favor of renewal or modification of the contract. Few lessees are content to leave important relationships solely dependent upon an agreement for a limited term of years. Nevertheless, so long as it lasts a lease possesses a certain advantage over stock ownership in the matter of permanence. For control by stock ownership may, of course, terminate at any time through sale of the shares. Consequently the added element of permanence may be given to combination through ownership of stock by means of a lease for a definite period. Thus, for example, the Southern Pacific Railroad owned all the stock of the Central Pacific Railway, — this being the connecting link at the western end for the direct transcontinental line of the Union Pacific. It also leased it. The reason for the lease, superadded to ownership of all the stock, was that the Union Pacific through control of the Oregon Short Line — giving it an alternative outlet to the Pacific *via* Portland, Ore., — had "placed itself in opposition to the interests of the Central Pacific," so that it was "not only to the best

interests of, but absolutely necessary that the Central Pacific Railroad Company, in order to maintain itself against these diversions should be operated in connection with a friendly through line to the waters of the Atlantic."[1]

When, in addition to a long-term lease, there is also control by stock ownership, the lessor corporation may become entirely inactive, performing neither fiscal nor operating functions. It continues to exist only for the sake of keeping alive its franchise. The securities of such inactive railroad corporations outstanding in 1906, amounted to more than à billion dollars. But, even in the case of an inactive corporation, a lease alone may give rise to controversy concerning outlay for improvement of the property of the lessor. There is apt to be danger of this, since the lessee derives only a temporary and partial benefit from such outlay. Contrariwise, sometimes the stock ownership may precede, not follow, the lease. Control having been obtained, a lease to the parent company may be added, in order that all may be operated as integral parts of one system. It is at this point that the interests of minority stockholders in the lessee company are sometimes endangered.

The structure of the Boston & Maine system illustrates the practical disadvantages of a system built up by means of leases. In 1912 the parent company owned but 725 miles out of a total operated mileage of 2244.[2] This was even more loose than the structure of the New York Central. The rental on the leased lines was usually an agreement to pay interest on the funded debt of the lessor company and a fixed percentage upon its capital stock. The first objection to this plan is that it concentrates too much power upon a small basis of capital stock. In 1901 the stock of the Boston & Maine being only about $26,500,000, ownership of slightly over one-half of this sum insured the control of more than 3,000 miles of line. And

[1] *Quarterly Journal of Economics*, vol. XXVII, 1913, p. 295, and vol. XXVIII, 1914, p. 772 *ff*. *Cf*. also p. 569, *infra*.
[2] 27 I. C. C. Rep., 600.

in 1907 the New Haven, by purchasing less than $11,000,000 of this stock, obtained virtual control of the property. In other words, this plan removed control from actual ownership of the underlying properties. An even more serious objection is the narrowness of the margin between fixed charges and income.[1] Fixed rentals on the Boston & Maine being $5,000,000 and interest about $2,000,000, a dividend of 6 per cent. upon its capital stock would be only $2,500,000. The stockholders of the parent company were thus little more than residuary legatees of the earnings of the road. There was no power of resistance against the days of adversity which brought it almost to receivership in 1914. The fluctuations between prosperity and depression were at all times sudden and extreme.

Foremost among the advantages of consolidation by lease, is the fact that no new financing is required at the time. Income and not capital account is solely concerned. This from the public point of view is an advantage; as most other forms of consolidation invite an increase of outstanding securities. To the public, also, where the terms of a lease, like that of the Boston & Albany to the New York Central, are subject to legislative approval, renewal of the contract, under the changed conditions of a century hence, affords opportunity for a revision in the public interest. A readjustment of relationships to conform to new circumstances may well be worth while. And then, finally, consolidation by lease is a somewhat more flexible arrangement between two companies than permanent control. This is especially true of leases which provide for a rental based upon earning power of the lessor. And such leases, common in the Pennsylvania system, are unquestionably much to be preferred to leases with fixed rentals.[2] The Boston & Maine Railroad, as has just been seen, is a notable instance of a company built up largely by means of leases calling for fixed rentals

[1] *Cf.* pp. 73 and 110 *ff.*, *supra.*

[2] Fixed rentals seem, nevertheless, to be about twice as frequent as contingent ones. Statistics of Railways, I. C. C., 1912, p. 14.

regardless of the revenue yielded by the subordinate road. Entirely unwieldy members of a system may infrequently arise from this form of agreement. The experience of the Boston & Maine is conclusive in this regard. The evil of focussing all net revenue after fixed rentals upon a small volume of capital stock of the lessee is apparent in extreme susceptibility of its capital stock to fluctuations in general industrial welfare.

In addition to the disadvantages of control by lease above suggested, there are others of equal moment. It is too uncertain a bond of union, in view of the chances of bankruptcy and receivership of the lessee; and yet it is too hard and fast in case the lessee may find it desirable to terminate the connection. A burdensome subsidiary held by stock ownership can readily be disposed of at any time by selling the shares; but a lease contract cannot be so easily set aside. The contrasting organizations of the Brooklyn Rapid Transit and the New York Interborough-Metropolitan companies are cases in point. Stock ownership in addition to lease of course solves this difficulty, as the stock can at any time be voted in favor of nullification. A serious difficulty about long-time leases is the multitude of details which must be specifically fixed in the covenant, in order to avoid disputes. Among these may be enumerated: the right to issue new securities, especially bonds, by the lessor; the division of improvement expenditures between capital and income account; adequate provision for maintenance and final delivery of the property in condition for a renewal of independent operation; prohibition of new construction by the lessee, detrimental to the separate interest of the lessor; and fair distribution of tax burdens and special assessments. These are by no means all; but they afford some indication of the complexities of carefully drawn agreements.[1] And yet, despite the utmost care, there is always the chance

[1] On burdensome leases, *cf.* Daggett, *op. cit.*, pp. 162 and 370; Lyon, Capitalization, p. 131; and Cleveland and Powell, *op. cit.*, p. 218.

of a change of circumstances and conditions over long periods of time, to which a rigid agreement is unable to conform. The Old Colony lease by the New Haven, providing for ultimate reversion of all improvements to the lessor, contributed to block the plans for electrification about 1912. The West End Street Railway lease by the Boston Elevated was equally troublesome in respect of operation. And the Harlem lease by the New York Central, already mentioned in connection with merger, stood in the way of financing joint terminals. A lease, even with rentals contingent upon earnings, or, as commonly in the Atchison system, for interest upon the bonds, is at best but an ineffective mode of connection.

The third form of combination, through individuals or legal persons, has become prominent in recent years. Mere private ownership by such parties may sometimes make up the majority of stock ownership necessary for absolute control. Thus an important part of the Chicago & Northwestern system is assured to it by the personal holdings of stock in the subsidiary company by one of the Vanderbilts, which together with the Northwestern's own share makes up the requisite majority. And the same thing is elsewhere true in the Vanderbilt group. The Gould family stock holdings in a number of parts of their system played the same rôle, being essential to positive control by the Missouri Pacific, which was the parent company. A notable recent instance was the transfer by the New Haven Railroad of all its holdings in Boston & Maine stock to a private and friendly individual, subsequently chartered as the Billard Company, in order to evade certain Massachusetts prohibitions of consolidation of competing lines.[1] Undoubtedly many minority ownerships of stock in subsidiary companies depend upon friendly personal holdings of individuals for their absolute security against attack by rival interests. It is needless to add that trust companies and banking houses often perform

[1] P. 255, *supra*.

this same service; there being no difference of principle between the two. Sometimes a body of trustees may serve officially in this connection. Thus was the Cincinnati, Hamilton & Dayton in 1909 taken over by the Baltimore & Ohio. A majority of its stock was placed in the hands of three trustees, one being the president of the Baltimore & Ohio. A proviso was included permitting the parent company to purchase these shares in 1916 at a price to be fixed by arbitration.[1]

One of the much-heralded inventions of the feverish period of 1899–1901 which presaged an entire revolution in the conduct of American railways, was largely personal in its nature. It was known as community of interest.[2] In effect a substantial interchange of directors was to take place between railroads either serving the same territory or having interests in common. In part such interchange of representation upon the governing boards was to be based upon holdings of capital stock; but, — introducing a new Christian era as well as an economic one — such reciprocal representation was also to be a matter of courtesy. By such participation in corporate counsels, proprietary or complimentary, it was averred that all jarring affairs in future might be harmoniously settled, to the end that a greater measure of peace among transportation companies should result. As a matter of fact the experiment had already been tried in 1892 among the anthracite coal carriers to little or no effect.[3] So far as actual control through investment is concerned, the subject is discussed elsewhere both in connection with stock ownership and the structure of territorial railway systems.[4] The remaining aspect of the matter, the relationships, namely, which were set up over and above the purely contractual and proprietary ones, may be

[1] P. 216, *supra*.

[2] Haney, Business Organization and Combination, chap. XIV, describes its application to other lines of business. *Cf.* also Noyes on Intercorporate Relations, 1902, p. 427.

[3] Eliot Jones, *op. cit.* p. 71 *ff.*; *cf.* chap. XVI, *infra*.

[4] Pp. 66, *supra* and 459, *infra*.

dismissed in a few words.[1] For, in the first place, it was soon discovered that the purely complimentary directors, beyond acting possibly as scouts for their own companies, soon tended to become nonentities upon the board. In fact, even those directors representing minority interests, in the case of many companies whose affairs were managed by a powerful financial clique constituting the executive committee, soon discovered that their influence was practically nil. A most dangerous tendency in the direction of assumption of authority by an inner council was brought to light in connection with the investigation of the affairs of the New Haven in 1914.[2] Particularly was this demonstrated in connection with the Westchester road. Not only in this case but elsewhere, railroad directors have been almost if not quite criminally negligent, voting without knowledge and approving the expenditure of large sums without information. Boards of directors too often tend too largely to become bodies merely for ratification and not for authorization.[3] The Interstate Commerce Commission recommended in this case that the Federal law be so amended as to render directors individually liable to both civil and criminal laws for the manner in which they discharged their trusts. Yet it is submitted that under such circumstances complimentary directorships might fall into disuse; or else, in view of the accountability attaching to such posts, the practice of the dummy director might be directly encouraged.

The prevalence of interlocking directorships, not only among railroads but also between them and the great banking and industrial companies, has been forcibly brought to public attention of late in connection with the further Federal regulation of monopoly by amendment of the Anti-Trust law.[4] A

[1] *Harvard Law Review*, vol. XXVI, 1913, pp. 467–492.

[2] 31 I. C. C., Rep., 36 and 69.

[3] The suits instituted in November, 1914, under the criminal provisions of the Sherman Act may test this liability.

[4] Digest of Hearings, Senate (Elkins) Committee Rep., 1905, App. VI, p. 50 *et seq.*: Rep. House (Stanley) Committee on the Steel Trust,

few concrete illustrations may not be out of place. In 1905 a majority of the boards of directors of all the important railways east of the Mississippi, controlling all access by land to the ports of Philadelphia, New York and Boston, might be selected from a list of 39 persons. Thirteen of these dominated a powerful group headed by the Pennsylvania. In the labor arbitration proceedings of 1912, it appeared that in Trunk Line territory another group of 13 men held 34 personal connections, amounting to control, in 34 transportation lines, 31 financial companies and 116 industrial combinations, not including 97 fiduciary relations with the New York Central group alone. Fourteen men occupied the seats of 67 directors in 27 different roads in this territory alone. So extraordinary was this distribution of control among all sorts of railroad, financial and supply companies on the New Haven board that the Interstate Commerce Commission was compelled to observe that "in fact every other interest seemed better represented than the average stockholder's interest." The practice of one man serving upon many different boards was strongly condemned. The results of these official inquiries so deeply aroused public feeling that a number of men, notably the partners in the banking house of J. P. Morgan & Co., voluntarily retired from many directorships of this kind. And the Clayton Anti-Trust Amendments of the Sherman Act, adopted in 1914, stringently prescribed the extent of such inter-relationships in future.[1] Reviewing the course of events since 1900, it can scarcely be denied that harmony among railroad companies and also the elimination of rebates were promoted by means of this device of interchange of directors. But it is

1912; 62nd Cong., 2nd sess., H. R. Rep., no. 1127; Rep. House (Pujo) Committee on the Money Trust, 1913; 62nd Cong., 3rd sess., H. R. Rep., no. 1593 and also H. R. Doc. no. 2773 and Senate Doc. no. 1290: Rep., Arbitration Board between Eastern Railroads and the Brotherhood of Locomotive Engineers, Nov. 2, 1912: Rep., House (Clayton) Committee on Amendment of Sherman Act; 63rd Cong., 2nd sess., H. R. Rep., no. 627. *Cf.* p. 545, *infra* for the anthracite mix-up.

[1] *Cf.* Chapter XVII, *infra*.

also true that bankers and complimentary or community-of-interest directors upon railroads are equally fortunate in the instant time of their retirement.

Traffic agreements are an unsatisfactory and yet a necessary mode of piecing out an imperfect system, — most frequently applied to the joint use of terminal facilities.[1] The arrangement by which the New Haven system makes use of the New York Central tracks into New York is a case in point. But traffic agreements, while in one respect bringing different companies together, in another way actually render consolidation unnecessary. For one of the leading motives for combination has been the need of acquiring an entire railroad, merely for the sake of its terminals. In other words it was cheaper to buy an entire existing road, than to purchase new and perhaps prohibitorily expensive real estate in large cities. If entrance over the tracks of an existing line can be secured by traffic or trackage agreements, the same end may be far more readily attained. Traffic agreements may also obviate the need of expensive and wasteful paralleling of existing lines in order to reach strategic points. The Hampden Railroad scandal in Massachusetts might perfectly well have been avoided by a trackage agreement with the Boston & Albany.[2] Another way, of course, is joint purchase, as in the ownership of the Monon route from the Ohio River into Chicago by the Southern and the Louisville & Nashville roads. But that involves stock control, which yet remains for discussion. Operating or traffic agreements serve the same purpose equally well. Bitter warfare between the Hill and Harriman forces in the Far Northwest was brought to an end by such means. Very expensive paralleling by three competitors for 400 miles along the Columbia River was thus amicably settled in 1906. And then, three years later, the Union Pacific made a truce with

[1] Robertson, *op. cit.*, is good on this; *cf.* also Sakolski, p. 82.
[2] P. 24, *supra*. *Cf.* also chapter XVIII, *infra*.

its rivals on the basis of joint use of a single line between a number of important cities.[1] Such agreements are apt to be encouraged by stringency of the money market, which renders the raising of new capital for construction difficult.

The year 1911 witnessed a considerable revival of cooperative arrangements. The New York Central followed a long-term arrangement with the New Haven for operation of the Boston & Albany, share and share alike, with another for through south and east bound business with the Western Maryland. The Delaware & Hudson and Erie entered into similar contracts. In 1912 the "Frisco" made arrangements with the Louisville & Nashville for a short line from Chicago and Kansas City to New Orleans; and then contracted with the Southern for joint use of terminals in New Orleans. A little later it engaged with the Atchison to care for through passenger service to the Southwest. The Missouri Pacific and the Northwestern also soon followed suit. Much new duplicate construction was doubtless avoided in many of these instances, the public interest being well served thereby. Traffic contracts answered all the needs of the time. Whether, however, they will permanently satisfy ambitious managements, after monetary conditions improve, remains to be seen. It was uniformly alleged that no desire to suppress competition was present; but that the desire to avoid duplicate construction was the sole motive. This was certainly doubtful in the Boston & Albany agreement, above mentioned, where it certainly was in evidence, as also in the earlier agreement of 1893 between the New Haven and the Boston & Maine for division of the New England field between the two systems.[2] The touchstone as to the public interest in any such doubtful case must be the motive or intent,[3] so far as that can be ascertained.

[1] *Cf.* map, Washington R. C. R., 1909.

[2] Original U. S. Petition in New Haven dissolution suit, 1914, p. 50, gives full details. *Cf.* also 27 I. C. C. Rep., 609. *Cf.* p. 466, *infra.*

[3] *Cf.* Daggett, *op. cit.*, p. 283, on the iniquitous Wisconsin Central-Northern Pacific traffic contract of 1899.

Joint ownership of a line by several railroads may serve as well as an operating or traffic agreement, either as a means of eliminating competition or of economizing operation, according to the intent.[1] Sometimes as many as twelve roads have participated in the case of terminal companies. The joint ownership of the Monon route affording a common entrance into Chicago from Ohio river points to the Southern and Louisville & Nashville roads has already been mentioned. Troublesome competition from the newly constructed San Pedro, Los Angeles & Salt Lake road was in 1904 eliminated by the Union Pacific through the purchase of a half interest.[2] This gave it a direct route to the California fruit region, and relieved it from the necessity of much new construction. North of San Francisco competition has also been eliminated by a similar joint ownership by the Atchison and the Southern Pacific.[3] Joint control may sometimes be by lease. Thus was the Georgia Railroad held by the Atlantic Coast Line and the Louisville & Nashville in common. It may even be alternating; as in the case of the Alton road after its reorganization by Harriman. Having been stripped bare of all assets, its shares were deposited with a trust company under an agreement by which control was to be exercised in alternate years by the Union Pacific and Rock Island companies. This awkward arrangement was, however, terminated in 1907, when the property was finally lodged in the so-called Hawley group. The Little Kanawha Syndicate once owned the charters of a number of roads constructed in West Virginia, Ohio and Pennsylvania in 1902–'03. Its stock was held jointly by the Pennsylvania, the Baltimore & Ohio and the Pittsburg & Lake Erie. Whether such an arrangement, as also the joint beneficial interest of the Colorado & Southern and Denver & Rio Grande in the Colorado Midland since its reorganization in

[1] *Cf. Railway Age Gazette*, Oct. 28, 1910, p. 778.
[2] *Quarterly Journal of Economics*, vol. XXVII, 1913, pp. 302, 317, *etc.*
[3] P. S. C., California, no. 1428, 1914.

1897, are unlawful under the Sherman Act, has not yet been put to the legal test.[1]

Stock ownership is today the most favored mode of effecting railroad consolidation. It is, however, sharply divided into two classes, which may be denominated direct and indirect, respectively. In the former, the parent company itself invests in shares of the roads which it may wish to control. In the latter, resort is had to a purely finance corporation, commonly known as a holding company. Some idea of the relative predominance of this general form of control by means of stockholding may be gained from the detailed Report upon Intercorporate Relations of Railways in 1906. Of nearly $9,000,000,000 of outstanding capital stock of railroads at that time, over $4,000,000,000 or 46 per cent. was held by railroad companies. On the other hand inter-railway investment in funded obligations, not implying corporate control, only amounted to 15 per cent. of the outstanding bonded indebtedness. This relationship remained substantially unchanged for a number of years, about two-thirds of the securities owned being stocks, the balance being bonds.[2]

Direct investment in stock of subsidiary lines has been practised almost from the inception of railroading. The Baltimore & Ohio began as early as 1832 to subscribe to the stock of other companies in its system. It has consistently adhered to the policy ever since. The Pennsylvania Railroad likewise began in 1853 to organize its western connections as independent corporations, in which it held all or a substantial proportion of stock. In 1913 it owned $334,000,000 of such securities. And the Chicago & Northwestern as far back as Civil War times built up its system by means of such legal articulation. It seems probable that the principal motive in these cases was to enable separate incorporation in the

[1] On the Sherman Act, *cf.* chap. XVII, *infra.*
[2] *Cf.* p. 66, *supra*, on inter-railway investments.

different states, as called for by legislative action. This must ever be a perfectly valid reason for splitting up an extended line of inter-state railway into a series of distinct corporations each confined to a single legal jurisdiction. The organization of the Pacific coast extension of the St. Paul road in 1906 affords a good illustration of its private or internal advantage. And the insistence by the legislature of Massachusetts upon an intermediate domestic corporation to stand between the New Haven and Boston & Maine roads when brought together in 1908, in order to subject the combination to local control within the state, shows how it may readily serve the needs of the public. The awkward predicament of the Union Pacific in 1879 under the limitations of its Federal charter, prohibiting it from further borrowing for purposes of extension, led necessarily to a resort to separate incorporation of its branch lines in much the same way. Corporate articulation of a system by means of stock ownership between separate legal entities, as already pointed out in the discussion of leases and mergers, is thus a simple and elastic arrangement. It promotes the use of collateral trust bonds as a means of financing. Within reasonable limits there can be little objection to its use, as a nexus between separate operating companies within the same system.

Stock ownership by a railroad in other railroad companies outside its own system is quite another matter. This has attained large proportions in recent years. Such investment seldom exceeds a minority share of the total capital. If it did so, in fact, for any contiguous property it would amount practically to absorption of the other road. Illustrations of such minority investment are scattered throughout the chapters on the several great railway systems. The situation as respects the anthracite coal roads in trunk-line territory was for a time one of the most complex.[1] Other instances of outside investment are the holdings of the Chicago & North-

[1] P. 481, *infra*.

western in the Union Pacific; of the Pennsylvania in the New Haven; of the Union Pacific in the Illinois Central before its absorption; and of some five neighboring companies in the Hocking Valley. The object in all these cases is clear. Having important traffic relations with one another, or being otherwise interlocked in interest, it is important to have representation upon the board of directors. A merely complimentary exchange of directors was for a time regarded as serviceable, as has already been stated. But experience has shown that a substantial investment in shares confers an authority upon such representation in corporate counsels which would otherwise be lacking. Minority stock ownership has not in recent years been confined to neighboring or connecting properties, as it was at first. It may extend to investments in remotely situated roads. The most notable case of such stock ownership is, of course, the Union Pacific episode of 1906, fully described in the account of that system;[1] whereby it has come about at the last that the Southern Pacific road is partly owned by the Pennsylvania while the Baltimore & Ohio is in the hands of the Union Pacific. This instance is illuminating, also, as it shows how an originally operating road, the Oregon Short Line, may be transformed into practically a holding company. This corporation served as a repository for all the widely scattered investments of the Union Pacific system. Its operating functions became entirely subsidiary to this as its main purpose.

Ownership by railways of shares in other than transportation companies has of course also attained large proportions.[2] Land companies are perhaps the most common form. But general investment or development corporations, arising in connection with the manifold activities of railroads, may also be controlled by ownership of shares. Usually this is of course a majority interest. The Report on Intercorporate Relations of Railways of 1906 gives data concerning many hundreds of

[1] P. 508, *infra*. [2] P. 68, *supra*.

companies, ranging as far afield even as theatres or newspapers. The Erie once owned an opera house; the New Haven still holds $400,000 of bonds of the Boston *Herald.* Individuals used to serve as connecting media in such cases; but the permanency of a corporation is of great advantage over trusteeships or similar legal devices. Oftentimes one of these companies may be adopted as a sort of hold-all for miscellaneous investments, sometimes even including other railroads. The Santa Fé Land Improvement Company, for instance, entirely owned by the Atchison road, held in 1906, $309,900 of capital stock of the California-Nevada Railroad Company. The Northwestern Improvement Company, a subsidiary of the Northern Pacific road, in 1906 held over $27,500,000 in stocks of navigation, irrigation, express, land and mining companies. The extended ramifications of the New Haven Railroad's possessions, held through the New England Investment and Security Company, the Consolidated Railway Company, the Rhode Island Securities Company, the Rhode Island Company, and the Providence Securities Company, afford perhaps the extreme instance of the application of this principle of intercorporate investment.[1]

The growth of the holding company, — a purely financial corporation — is the most striking development in the line of stock ownership among railroads in recent years.[2] Such a company has no operating functions whatever. In this respect it differs from corporations like the Southern Pacific or the Pennsylvania Co.,[3] which actually operate systems, although

[1] Pp. 251, *supra* and 442, *infra.*

[2] Among serviceable references are the following: M. H. Robinson, *Yale Review*, Feb. and May, 1910; F. H. Dixon, I. C. C., Special Report on Intercorporate Relations of Railways, 1908, pp. 33–65. *Cf.* also pp. 144, *supra* and 555, *infra.* One of the very best sources, completely familiar with American conditions, but covering European experience also is R. Liefmann, Beteiligungs- und Finanzierungs-Gesellschaften, Jena, 1909.

[3] Sakolski, *op. cit.*, p. 53, gives a good description of the loose organization of the Southern Pacific Company.

owning no mileage directly. The activities of the holding company are strictly confined to voting its stock at shareholders' meetings; and distributing its income from shares owned, by means of dividends. The idea is not new. One of the first pure finance corporations was the Richmond & West Point Terminal Company, organized in 1881 in order to take chestnuts out of the fire for the Richmond & Danville Railroad,[1] — this latter being prohibited by law from owning stocks in any but connecting lines. Again in 1887 the Georgia Company, formed to hold most of the capital stock of the Central of Georgia Railway, played an important part in the complicated financial affairs of the time.[2] Occasional instances of this sort are scattered through the '80s; but the modern development of the holding company sprang from the liberality of the legislatures of New Jersey and other charter-mongering states. The most prominent example was the Northern Securities Company set up in 1901 to insure stability among the railroads of the far northwestern states.[3] Other finance corporations at the head of great systems, less ambitious to control directly parallel competitors, were more fortunate for a time in avoiding the prohibitions of Federal law. They still serve as the legal nexus between different operating companies. The leading types which are serviceable for purposes of illustration are the Atlantic Coast Line Company, the Reading Company, and the Rock Island Company.[4]

The peculiar interest of the Atlantic Coast Line Company lies in its relatively small capitalization, as compared with the volume of its possessions. In 1909 its share capital amounted to $12,600,000. In addition it had outstanding $13,000,000 "certificates of indebtedness." This enabled it to hold a bare

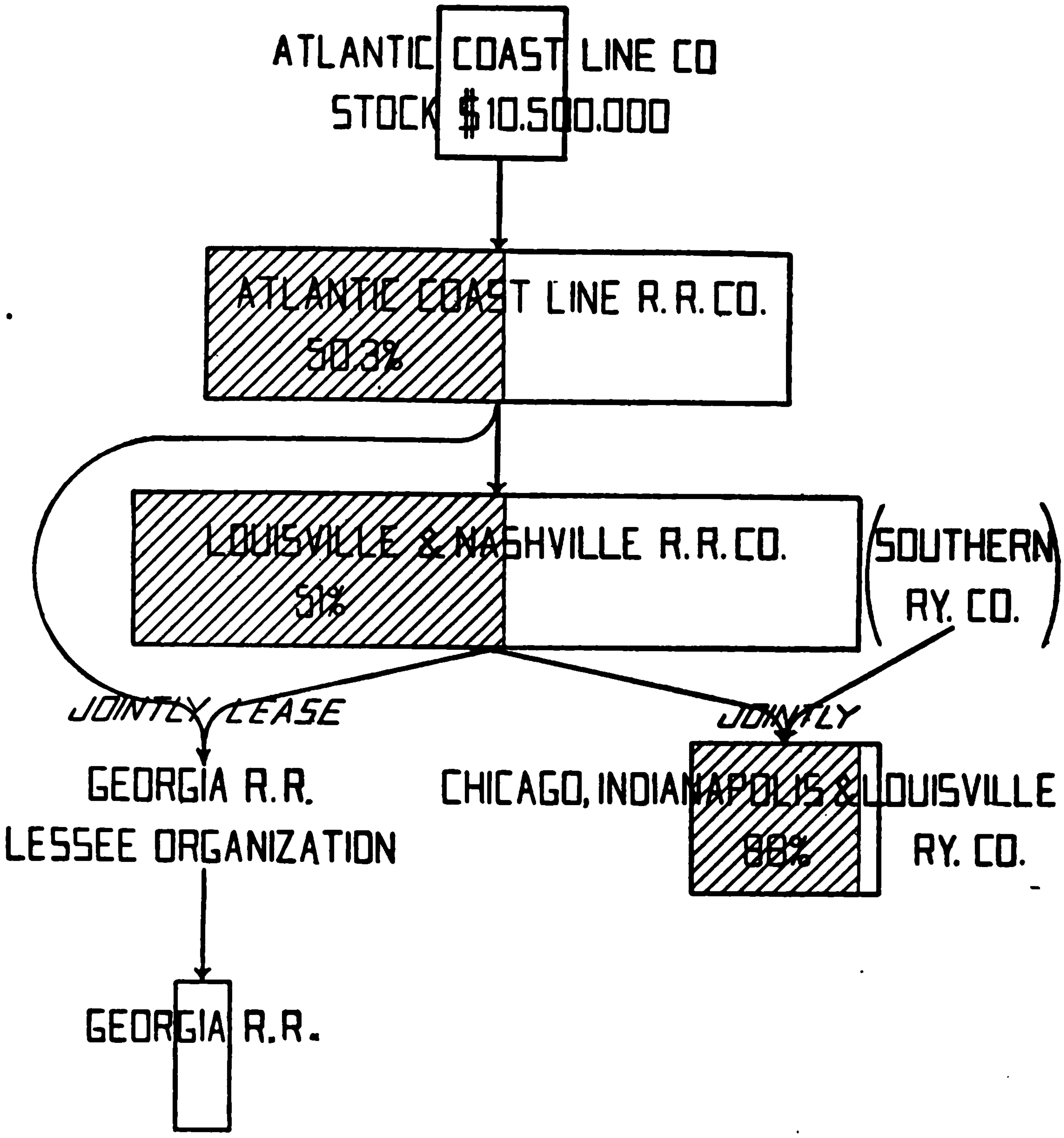
[1] P. 381, *supra*. *Cf.* p. 382, on the Pennsylvania's Southern holding company in the '70s.

[2] The Manual of Statistics, Stock Exchange Handbook, for 1898 gives details.

[3] Details on p. 497, *infra*.

[4] Adequately described at pp. 152, *supra* and 524, *infra*.

majority of the capital stock of the Atlantic Coast Line *Railroad* Company. This company, in turn, had in the course of the events already described in connection with the progress



INTERCORPORATE RELATIONSHIP OF THE ATLANTIC COAST LINE SYSTEM

[Size of rectangles indicates relative amounts of capital stock outstanding. Cross-hatching shows per cent. of capital stock owned by controlling Company.]

of consolidation in the southern states, come into possession of 51 per cent. of the stock of the Louisville & Nashville road.[1] Then this road, in order, had large interests in a number of

[1] Pp. 219, *supra* and p. 489, *infra*.

other allied or connecting companies. In 1906, the extent of all these possessions was not less than 11,000 miles of line, with a total capitalization of $725,000,000. Absolute control of this great property was thus vested in a bare majority of the capital stock of the Atlantic Coast Line Company, which stood at the head of the list. No more than $6,500,000 was needed for this purpose. And this much was said to be actually owned by a single individual. It was indeed a financial pyramid balanced on its apex.[1]

The Reading Company differs from the other great railroad holding corporations, in affording the legal bond of union between transportation and coal mining companies.[2] After a long and checkered career, the drastic reorganization of the Philadelphia & Reading Railroad and of its mining subsidiary, the coal and mining company of the same name in 1896, placed these two corporations upon a sound financial basis. But some way of uniting the two, without violation of the Pennsylvania constitutional prohibition against a railroad owning more than 30,000 acres of coal lands, had to be found. And, as in the case of the Northern Securities Company, diligent search unearthed a corporation chartered in 1871, before this new constitution was adopted, known as the National Company, afterward the Excelsior Enterprise Company. Its powers and privileges — "to purchase, improve, use and dispose of property to contractors and for other purposes," — were fully as broad as those of the companies which had come to an end with the reorganization. Thus corporation thereupon becoming the Reading Company proceeded to issue enough stock and bonds to acquire all the stock of both the railroad

[1] *Cf.* Financial Pyramiding: A Warning to Investors; by F. W. Mundy, embodying his testimony before the U. S. Securities Commission. The argument is precisely my own in *The World's Work*, October, 1905.

[2] An admirable history of this company is given in Daggett, Railroad Reorganization, pp. 75–145. *Cf.* also chap. XVI, *infra*, for fuller details of the coal business: especially Eliot Jones, *op. cit.*, pp. 76 and 115 *ff*.

and the mining company, and later some 53 per cent. of the share capital of the Central of New Jersey road.[1] This last step regained for it an independent entrance into New York. But it owns also many stocks and bonds of dock, terminal, bridge and navigation companies, to say nothing of real estate and hotel companies and even stock exchanges. The legal involution of the system is extraordinary even beyond all this. Aside from its intricate classification of capital stock, its direct ownership of most of the equipment used by the railroad, to which it extends its use under lease, may be mentioned.

The Temple Iron Company served a useful purpose in this same territory, acting as a holding company for independent collieries; and as a convenient medium through which harmony in hard coal prices was assured. In 1890, this concern was simply a corporation operating a small iron furnace near Reading. But its charter was old and liberal. Threatened by the project of a new tidewater railroad, six principal hard coal roads divided its stock among themselves, and caused it to acquire all the collieries which would be served by the new railroad, thus blocking the project. But despite its largely augmented stock and bonds, commensurate with increased responsibilities, the Temple Iron Company was nothing but a finance corporation to bind railroads and coal properties together. Its career practically closed with the adverse Federal decree of 1912.[2]

Summarizing the various reasons for the extensive resort to holding companies in recent years, no less than six may be distinguished. Its use in financing new construction in the different states, — a legal rather than an economic function — was perhaps the oldest.[3] Its serviceableness in connection with the growth of railway systems, whereby through the

[1] *Cf.* diagram, p. 481, *infra.*

[2] Pp. 543 and 571, *infra.*

The third typical holding corporation — the Rock Island Co. — is described elsewhere at p. 152, *supra* and p. 524, *infra.*

[3] P. 32, *supra.*

issuance of collateral trust bonds, each property acquired is "made to pay its own purchase price," requires no further elucidation.[1] A third motive, namely concentration of control upon a small amount of capital stock, was aptly instanced by the Rock Island and Atlantic Coast Line companies. A variant of this scheme, but not differing in principle, was the Hudson Companies, which after 1905 financed the so-called McAdoo tunnels under the North River at New York. The total capitalization in 1911 of this finance company, and of the Hudson & Manhattan Railroad, the operating company — amounted to over $151,000,000. The Hudson Companies owned a majority of the operating company's stock. Its own control, through voting power, was entirely vested in the ownership of $5,000,000 of common shares. The $16,000,000 of its preferred shares had no votes. Concentrated ownership of $2,500,100 of this common stock thus swayed the destinies of about seventy times as much capital outstanding. Nor is there apparently any limit to such concentration of power except the credulity or implicit confidence of investors. A chain of companies, each in turn holding but a bare majority of the shares of the corporation next in order, may almost indefinitely dissociate directoral power from ownership. The classic dissenting opinion of Justice Brewer in the Northern Securities decision dwelt emphatically upon this point.[2] "This process might be extended until a single corporation, where stock was owned by three or four parties, would be in practical control of both roads; or, having before us the possibilities of combination, the control of the whole transportation system of the country."

Holding companies, in the fourth place, in association with collateral trust bonds, sometimes effectively widen the bankers' market for securities. This was exemplified in the great New York Life Insurance investigation of 1905.[3] Forbidden by the strict regulations of foreign countries to invest their reserves in

[1] P. 147, *supra*. [2] P. 558, *infra* and Rates and Regulation, p. 491.
[3] P. 138, *supra*.

railroad stocks, and striving to impress upon the American public the eminently conservative character of their investments, the life insurance companies were enabled to participate much more freely in collateral trust bond issues than in the stocks which underlay them and which, in fact, formed the sole guarantee of their worth. Examination of the reports to the New York Insurance Commissioner disclosed a long list of such "bonds"; which, if our analysis of their nature be correct, were nothing more than stocks, reissued in this shape. The stringent limitation of life insurance investments constituted a most salutary protection for the policy holders. It was rendered practically nugatory by these means. But in yet another way the holding company may widen the field of investment; at the same time strengthening the appeal to investors for additional capital. It may combine a number of different bonds or stocks of a minor sort, enabling a single issue of securities to be put forth upon them as joint collateral. The Seaboard Air Line Railway in 1900–'03 and the Louisville & Nashville in 1898, used collateral trust securities in this way. A holding company was set up, to which a miscellaneous lot of equities was transferred. This company then put forth its own bonds based upon these mixed assets as security, so that the unified issue might acquire sufficient dignity and importance to command a better market.[1] This has been for some years the procedure in the widespread promotion of combinations of trolley lines and other public service companies.[2] "A situation," — that is to say an opportunity for development and potential profit — would be bought up piecemeal and thus capitalized. Fortunately, having in mind the possible and proven abuses, the growth of governmental supervision has tended of late to lessen this mode of finance. It is not beyond the range of possibility that if the day should ever

[1] *Cf.* p. 156, *supra.*

[2] Well reviewed in Introduction, *Electric Railway World,* ed. 1914. *Cf.* N. Y. *Evening Post,* Financial Supplement, May 23, 1914, p. 9.

come when the railways of the country are taken over by the Federal government, some such holding company might be conveniently used. A gigantic finance corporation, capitalized at $25,000,000,000, whose stock should be sold to the public under guaranteed 3 per cent. dividends to an amount sufficient to buy up the existing railroad stocks and bonds, has been seriously discussed.[1] Such might well be the means to this momentous end, if be it must.

A fifth use of the holding company may be to promote corporate secrecy. Intercorporate alliances as well as financial relationships may be entirely concealed.[2] Each company whose stock is held may insist that its information concerning stockholders does not extend beyond its own stock books. Many important details concerning finances may also be covered up in consolidated or imperfect balance sheets. Several experiences with the Union Pacific, the Northern Pacific and the Great Northern roads with subsidiary companies have already been described. The Lake Superior Company, for example, held many millions of investments, not a trace of which appeared in any published statements either to stockholders or the public. There can be no doubt that such holding companies have been deliberately planned for purposes of concealment. The accounts may be kept by persons entirely outside the railroad staff. Officially, the railroad may thus have no knowledge of well-established connections. The Illinois Central owned the Mississippi Valley Company; which, capitalized at only $300,000, in turn controlled four subsidiary railroads. One of these alone had in 1906, $59,000,000 of outstanding stock and bonds on its 1,200 miles of line. Yet it was able to state under oath to the Interstate Commerce Commission that it was not controlled by any other *railroad* company. The intervention between owner and operator of

[1] *McClure's Magazine*, January, 1912; discussed in *Railway Age Gazette*, vol. LII, 1912, pp. 82 and 1535.

[2] Well stated by Dixon, *op. cit.*

a neutral financial link made this "officially" true. Similarly the Railroad Securities Company once served to hold $9,200,000 of Illinois Central stock for the secret purposes of E. H. Harriman as master of the Union Pacific.

A misleading, albeit perfectly legal relationship between stock and bond issues may sometimes be promoted under a holding concern. The Great Northern Railway Company in 1914 had a capital stock of $231,000,000; but so largely was this corporation a holding company that its direct debt amounted to only $35,000,000.[1] In other words, most of its funded debt attached to subsidiary lines; although the parent company actually distributed the earnings of all these lines through the duct of its own dividends. An instructive misuse of power under secret manipulation occurred in the '80s under the Richmond & West Point Terminal Company, already mentioned. Its control was finally acquired by the Richmond & Danville, which then proceeded by lease or purchase to abstract 1,483 miles of line out of its total mileage assets of 1,839 miles. The stock of the thus depleted Terminal company was then foisted upon innocent investors who were not in possession of the facts. As it happened, certain of these purchasers turned out to be not only truculent but resourceful, so that they were able finally to turn the tables upon their adversaries,[2] even to the extent of buying up the control of their legal possessor. Thus did a holding company to all intents and purposes swallow itself.

The involved transactions — "circuitous and subterranean" — which are possible with an intricate series of subsidiary corporations, are well exemplified in the dealings of the New Haven Railroad with its marine equipment.[3] No more convincing demonstration of the danger lurking in unregulated intercorporate stock ownership is needed than a plain recital

[1] Being the first installment of a recently authorized refunding mortgage of $600,000,000.

[2] P. 382, *supra*.

[3] *Cf.* p 251, *supra*.

of the facts in this notable case. Within nine years to 1912 all kinds of operations with steamboats, electric light companies and trolley lines were carried on by means of the New England Navigation Company. A second-hand charter was picked up by the railroad for $2,000 which — its name being changed — permitted certain services to be rendered without annual or other reports to any public authority. This company served as a convenient repository for all items which it was desired to omit from the public shed or official accounts. From and after 1905, when the New England Navigation Company first acquired the steamship lines controlled by the railroad, it bought, sold and leased this equipment back and forth with half a dozen other subsidiary corporations, called into being on paper for the purpose. One of these became twice extinct and was once resurrected during the period in question. The book value of the steamship lines in the course of these transactions varied by more than one-third for substantially the same property. The final sale of the marine equipment in 1912 for $14,750,000 (including $3,500,000 good-will and $1,000,000 leaseholds) is instructive. The purchaser was the New England Steamship Company, possessed of less than $200,000 in assets. It proposed to make payment, despite these slender resources, by giving bonds for $9,000,000 secured by the purchased property, together with $5,750,000 in cash. This cash was paid as follows, quoting from the report of the Interstate Commerce Commission.[1]

"June 27, 1912, the Navigation Company borrowed $3,000,000 from the New Haven Company, giving its demand note therefor. Being in funds it now purchased of the New England Steamship Company for $2,750,000 in cash an equal amount of the common stock of that company. The New England Steamship Company thereby becoming possessed of $2,750,000 in money made a cash payment to the Navigation Company of $2,850,000. Thereupon the Navigation

[1] 27 I. C. C. Rep., 591: also 31 I. C. C. Rep., 55 and 108 on the New England Investment Co.; p. 58 on manipulating accounts of income; p. 36 on different corporations concerned; p. 60 on dummy companies, etc.

Company, being once more in funds, purchased from the New England Steamship Company $3,000,000 of its preferred stock for $3,000,000 in cash. The Steamship Company, being itself once more in funds, now completes its cash payment, $2,900,000, to the Navigation Company, thus making a payment of $9,000,000 in bonds and $5,750,000 in cash. The Navigation Company now repays the $3,000,000 to the New Haven Company, plus two days' interest, and this bona fide sale is completed."

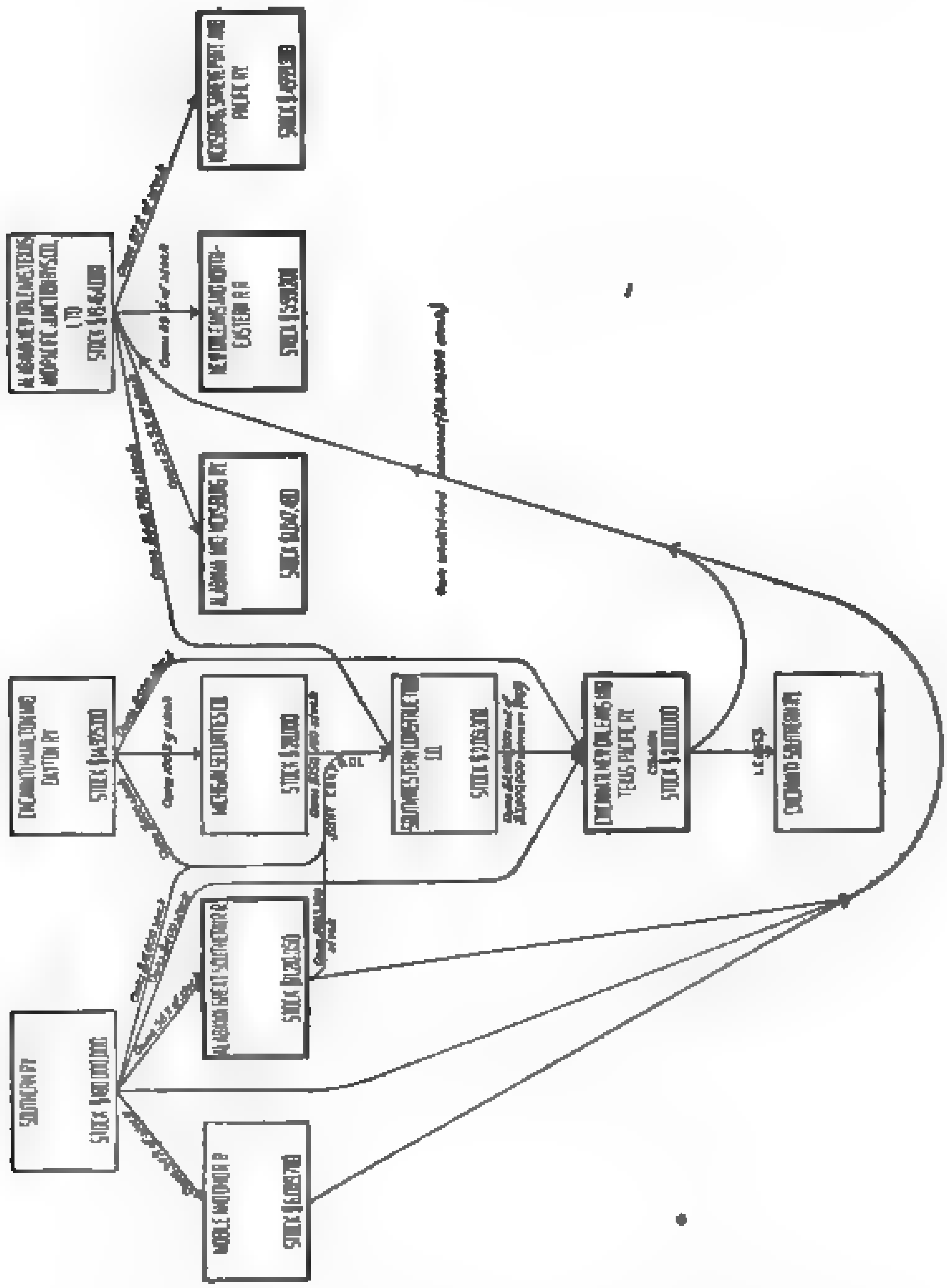
Similar involved transactions were entered into by this navigation company in connection with the purchase of the Boston & Maine Railroad.[1] One cannot avoid the conclusion that the title of this concern was well adapted to its main purpose of flotation upon a sea of watered stock. As the Commission observed, apropos of the contention of the railroad that these kaleidoscopic transformations were merely matters of bookkeeping, — "This may be true, but the purpose of bookkeeping is to exhibit a plain history of the financial operations covered. The purpose, or at least the effect, of this New Haven bookkeeping is to utterly becloud those operations so as to render any intelligent understanding of them almost impossible. If the thing done is legitimate, why not do it in a direct way? If the purpose be honest, why clothe it in the habiliments of the mountebank? The mere fact that such methods are employed inspires distrust. . . . The use of such methods in the management of public utilities should not be tolerated."

One further illustration of the involutions of corporate finance, once the principle of inter-company stockholding is adopted, is afforded by the following diagram. Both the Michigan Securities Company and the Southwestern Construction Company, lying at the core of the Queen and Crescent system, are holding corporations, pure and simple.[2] As for the operat-

[1] Pp. 255 and 415, *supra*.

[2] I. C. C., Special Report on Intercorporate Relations of Railways, 1908; and Cleveland and Powell, *op. cit.*, p. 314. For a similar instructive diagram, *vide* 10 Wisconsin R. C. R., 84. Others are published for the Metropolitan Street Railways of New York. *Cf.* p. 29, *supra*.

ing companies, their complicated inter-relationships constitute a perfect maze. It is neither in the interest of sound and honest



INTERCORPORATE RELATIONSHIPS OF THE QUEEN AND CRESCENT ROUTE

[The outstanding stock excludes treasury holdings and other stock issues without voting rights. The rectangles with heavy outlines represent the railways comprising the Queen and Crescent Route.]

finance nor of economical and responsible operation, — neither of the private investor or the public, that such conditions should obtain.

This motive of secrecy, oftentimes of great and proper strategic importance, although susceptible of abuse when amounting to downright deception of stockholders or public authority, suggests naturally a final advantage of the holding company. It may serve as a means of avoidance of governmental regulation. Many legal questions concerning the applicability of Federal or state laws to such concerns yet remain for adjudication; but experience has already demonstrated that the most difficult problems relating to accountability, to shareholders as well as to the public, take their rise in complicated corporate relationships. Whether holding companies, for example, are at present within the jurisdiction of the Interstate Commerce Commission has not yet been settled by the courts.[1] And in several states, notably Texas, holding companies have been created apparently with a view to evasion of control.[2] Thus did the Port Reading Railroad in 1892 serve the Reading, contrary to Pennsylvania law in taking over the Central of New Jersey with all its great possessions,[3] being itself practically a paper corporation. At all events the decline in popularity of the holding company, particularly in the public service company field, has been coincident with the rise of aggressive policies of state financial supervision. For physical valuation and control of security issues by operating companies, has robbed the mischievous holding company of part of its prey.

A complicated phase of inter-railway relations in connection with consolidation arises out of conflict of interest between

[1] *Cf.* the U. S. Commerce Court opinion, No. 15, May, 1911, as to Stockyards, p. 9.

[2] The International & Great Northern Co., holding stock of the operating railroad of the same name, although chartered in Texas in 1911, is not within the jurisdiction of the state railroad commission. Reorganization details are also in evidence here.

[3] Eliot Jones, *op. cit.*, p. 50, Chapter XVI, *infra.*

majority and minority stockholders. This conflict is peculiarly likely to occur whenever a bare majority of the stock of one railroad is held by another railway company. Abuse of corporate control may be exercised in two distinct ways: the majority may manage the smaller company permanently in the interest of the dominant owner, regardless of the rights of the minority to a fair return upon their investment; or else it may so operate it for a time as to force the minority to sell out their holdings at a sacrifice. The best illustration of the latter policy is afforded by the leading case of the New York & Northern Railroad, as adjudicated in 1896 by the state Court of Appeals.[1] The New York Central, — being desirous of acquiring this little company, which operated a short line from the Harlem river north — first acquired a substantial block of its second-mortgage bonds, together with a majority of its capital stock. It then proceeded, as alleged by the minority stockholders, to cancel valuable traffic contracts, as well as so to operate it as to cause default in the interest on the bonds. The New York Central thereupon, as holder of these bonds, sought to foreclose upon the mortgage, buy it in at auction, and thus "freeze out" the minority stockholders. Simon Sterne, representing their interests, however, after protracted litigation succeeded in preventing this outcome. A somewhat similar policy, except as to the details of procedure, seems to have been adopted in 1902 by the Rock Island directorate in order to force the minority stockholders of the Choctaw, Oklahoma & Gulf to accede to their programme of combination. Manipulation of the same sort is charged in the protest of the minority shareholders of the Rutland Railroad in 1912 against their treatment by the New York Central management, in connection with proceedings before the New York Public Service Commission relative to transfer of the Rutland company to the New Haven system.[2]

[1] 150 N. Y., 410.

[2] P. 468, *infra*.

The other policy, that of protracted operation of a subsidiary line for the benefit of another railroad owning a majority of its shares, rather than for the immediate interest of all its own shareholders alike, is illustrated by the experience of the Kanawha & Michigan. The facts have been brought to light in the course of litigation in the Federal courts extending over the greater part of a decade.[1] It forms a part of the checkered history of the ill-starred Hocking Valley Railroad. The smaller company, the Kanawha & Michigan, held a strategic position in the Ohio and West Virginia coal fields. It was ever likely to develop into a "disturbing factor" in the general policy of rate harmony initiated by the Trunk Lines after 1900. It was at the time free of indebtedness and in a fair way to prosperity; the stock sold nearly at par. A bare majority of this stock was acquired by the Hocking Valley; which, it is alleged, has since that time continuously subordinated the interests of the Kanawha & Michigan company to its own advantage. Opportunities for independent development have been refused, as well as all new sources of business and other railway connections. The new Virginian Railway, for example, constructed by the late H. H. Rogers, might easily have afforded it an excellent outlet to the South and East. This policy of repression was pursued for years with the result that no dividends were ever paid upon the capital stock. The state of Ohio brought pressure to secure its release; but these efforts were thwarted in various ways by transferring its shares from one hand to another. The final outcome was a surrender of the minority shareholders through a sacrifice sale of their holdings.

During these same years the minority shareholders of the Hocking Valley itself have been protesting in the Federal courts against the compact of 1902, whereby 51 per cent. of its stock was apportioned among five neighboring roads in

[1] Reviewed in an address by Samuel Untermeyer before the New York County Lawyers' Association, January 5, 1911.

Trunk Line territory. The object was evidently in this case simply to prevent this road, a minor cross line, from disturbing the harmony of the rate situation. The minority stockholders, however, allege that a limitation of the joint holdings of these companies to bare majority control has deprived them of a market for their property. How the acquisition of the road by the Chesapeake & Ohio in 1911 may affect the interest of all parties concerned remains to be seen.

Many other illustrations of abuse, real or alleged, of bare majority control to the detriment of minority shareholders might be mentioned.[1] In most cases the fairness of the management is a matter of business judgment; depending generally upon the policy adopted as to charging betterments to capital or income account. And the courts are very properly chary of hampering boards of directors in the exercise of this discretion. But there can be little doubt that such arrangements are always fraught with real danger to the powerless minority interest. On the other hand, it should be recognized that the power of a small minority to obstruct proceedings, in order perhaps to compel a purchase of their holdings at exorbitant prices, must be subject to proper control by judicial authority. Blackmailing suits and obstructive legal proceedings, either for purely speculative purposes[2] or in the interest of extortion, have been too frequent in our industrial history. Nevertheless, the striking tendency toward railway consolidation since 1900, and the demonstrated ease with which a concentrated body of stock, even far short of an actual majority, may carry matters with a high hand, regardless of minority rights, have proved the need of remedial legislation. The extraordinary position of the small percentage of still independent ("non-assenting") stockholders of the Lake Shore road, standing in

[1] St. Joseph & Grand Island; Central of Georgia; Chicago & Eastern Illinois; cited in detail, p. 140, *supra*. As to minority rights in reorganization, p. 390, *supra;* and among preferred shareholders, p. 103, *supra.*

[2] The Keene Southern Pacific Pool: *Quarterly Journal of Economics*, vol. XXV, 1911, p. 205, p. 217, *supra*.

the pathway of its actual merger with the New York Central at this time, affords an instance of the conflicting interests involved. The New York Central has for years managed the Lake Shore primarily in its own interest, even to the extent of using it as its fiscal agent in controlling the Reading and other subordinate roads in Trunk Line territory. Nice questions of conflicting rights between majority and minority interests have naturally arisen all along the line.[1]

Assuredly no undue obstacle should be placed by law in the way of a straightforward movement toward combination of connecting, non-competing railroad companies. All such movements make for better service, simpler financing and more economical management. But there is a wide difference between buying the property, — *e.g.*, the entire capital stock of a company — and merely acquiring 51 per cent. of its shares. It is this latter practice which should be regulated. The propositions and debates in Congress dealt with the matter at length, following out the plans in the President's message of 1910; but unfortunately the Mann-Elkins Act did not cover the point at all. The matter has, however, been revived by the wise recommendations of the Railroad Securities Commission authorized under that law. These recommendations may best be stated by the following excerpt from its report.

"Any company, or group of companies, which has purchased a majority of the stock of any existing road may properly be required to buy the minority stock at the same price as that paid for the majority stock where the price has been uniform. If the price has not been uniform, the purchase should be either at the average price paid for such holdings or at a price to be fixed by appraisal, at the option of the minority stockholders.

"If a company has acquired control of the common stock of another, but not of its preferred, it should be required either to buy the preferred stock or to make the preference cumulative. For the continued existence of a non-cumulative preference under such conditions will offer constant temptations to unfair dealing, if not to actual fraud.

[1] P. 416, Merger, *supra*.

"In order to avoid vexatious opposition to consolidation by a minority it should be possible, after such an offer had been fairly made, to convey the property by three-fourths vote of the shareholders and dissolve the corporation. The purchase of less than a majority of the stock of one line by another (except as one of a group of railroads jointly holding the stock of some connecting company) should be discountenanced and as far as possible prohibited."

The difficulty of direct prohibitive legislation, as proposed by the Federal Securities Commission, is well illustrated by two related events in 1912, which gave rise to discussion as to the rights of minority stockholders. These matters came before the New York Public Service Commission (up-state) in 1912 on petition, respectively, of the New Haven road to be permitted to sell its majority holding of stock in the New York, Ontario & Western road to the New York Central; and, contrariwise, of the New York Central to effect a transfer of its majority stockholding in the Rutland Railroad to the New Haven system. In the first instance the Ontario line, it was alleged, would give the New York Central an entrance to the hard-coal fields of Pennsylvania as well as to improve its terminal facilities at New York. In the other case it was urged that the Rutland Railroad with its connections lengthwise of Vermont would afford a valuable outlet to the northwest for the New Haven-Boston & Maine railway system of New England. Financially, the questions raised in these two petitions were quite similar. The selling price for the majority shares in each instance was substantially higher than the market quotations, which latter, of course, ruled for the stock of the minority shareholders. And in both cases these minority shareholders protested vigorously that, in consonance with the first recommendation of the Federal Securities Commission above cited, each railroad purchasing a majority of stock in another company should be required to extend the same offer to the holders of the minority shares. Answer to this contention was made by the petitioners that, while such an agreement might properly hold where the transaction

created a *new* relation between the controlling interest and the remainder, in these instances no real change in this regard would ensue. For, obviously, the minority interest in the hands of one parent company would be no more powerless than in the hands of the other. Moreover, as the New Haven contended, if it was compelled to make a uniform price for all the shares of the Ontario road rather than merely a majority — making a difference of about $13,000,000 in the cost of the transaction, — it would not consider it financially advisable to make the sale.

The New York commission in these cases declined, on the one hand, to permit the sale of the Ontario & Western to the New York Central; but, on the other, disregarded the protesting minority and gave its assent to the purchase of the Rutland road by the New Haven at a price for the majority shares distinctly higher than the market quotations.[1] In differentiating the two cases the reasoning of the Securities Commission was carried a step farther, in emphasizing the traffic considerations instead of confining its attention to the mere difference in purchase price between the two classes of holders. The possible oppression of the minority by controlling interests was fully recognized; but it was pointed out that in this regard the two cases were quite dissimilar. For, whereas the Rutland Railroad for many years within the New York Central system had been competitive with other lines of that company, and consequently might have been, as it was alleged, starved through diversion of traffic elsewhere; on becoming an extension of the existing lines of the New Haven system to the northwest, its foster-parent would most naturally prosper by its own development and utilization to the full. The two principal means by which a controlled property might be starved are either through diversion of traffic from its lines or else through shrinkages of its proportion

[1] 3 P. S. C., 2nd D. (N. Y.), 261, etc. *Cf.* facts cited in U. S. Bill of Complaint in the New Haven dissolution suit, July, 1914, p. 52.

of joint through rates. Within the New York Central system, the Rutland might conceivably suffer in both of these ways. As an extension of the New Haven system, only the latter policy might in any case be adopted to its disadvantage. Consequently, the minority shareholders would presumably be benefited by the transfer even if they were denied the advantage of sharing in the favorable purchase price for the minority holdings. On the other hand, in the case of the Ontario, Western transaction, the above-stated considerations did not apply. As before, the minority interest by itself would be as powerless in one control as in the other. But in this case the minor company traversed directly the heart of New York Central territory; so that the possibility of its practical retirement as a complete through line from New York city to the Lakes was imminent. It was held, moreover, that the energies, credit and resources of the larger company should properly be directed to the solution of its other pressing problems.

Whatever legislation occurs in future, whether by the states or the Federal government, should clearly make provision for the protection of minority shareholders.[1] Mere cumulative voting for directors on the principle of certain proposed reforms in the laws respecting the suffrage, in order to curb the tyranny of political majorities, might do something. But there should also be limitations upon intercorporate shareholdings, at the discretion of the regulative body, not calculated to interfere with the public interest but rather to bring about a complete disclosure of the manner in which the public interest requires a sacrifice, if any, of the rights of the minority. Any general plan for Federal incorporation of railroads ought certainly to contain provisions of this sort.

What statutory regulation may properly be applied in the matter of intercorporate stock holdings? All authorities are

[1] *Cf.* dissenting report to Draft Bill for Regulation of Public Utilities, National Civic Federation, October 23, 1914. *Cf.* Cong. Record, XL, 1910, p. 6159 *ff.*

agreed upon the need of full publicity. All the financial details of every act on the part of carriers should become a matter of public record. The Federal Securities Commission of 1911 wisely emphasized the vital need of such revelation. Holding companies, particularly, which have sought to evade the enlarged powers over accounting of the Interstate Commerce Commission since 1906 should be promptly brought to book.[1] Somewhat more debatable is the proposition to forbid all intercorporate stock holdings. The Attorney-General of Ohio in 1907, since followed by other eminent authorities, has stoutly urged legislation of this sort. But it appears as if such a prohibition, applied to common carriers, might be too drastic.[2] Were it indeed to force a substitution of indissoluble mergers for looser forms of combination, real evil might result. On the other hand Federal incorporation, carrying the right to construct and operate across state lines, free from interference by local authority, might, perhaps, eliminate one of the strongest reasons for the existence of complicated intercorporate relationships. Too much must not be expected of any prohibitory — that is to say negative, — enactments. Experience with the so-called Commodities Clause of the Act of 1906, prohibiting railroads from engaging in any other business than transportation, has certainly been disappointing. For, as already liberally construed by the courts, this does not seem to exclude, but rather to invite, intercorporate stock holdings.[3] Complete subjection of all rights of carriers to emit securities to the authority of the Interstate Commerce Commission also involves many difficult questions of detail, particularly in view of the present chaotic legal situation, the conflict of state

[1] *Cf.* the dissenting view in the National Civic Federation Draft Bill, October 23, 1914.

[2] Many state laws already prohibit stock ownership in competing lines. The Administration bill in 1910 originally allowed a railroad already owning a majority of stock in another to acquire it all.

[3] Effects described in our Railroads: Rates and Regulation, p. 552 *et seq.* Later experience in Eliot Jones, *op. cit.*, p. 187 *ff.*

laws with one another and with the Federal statutes. On the whole, one finds most comfort in the proposition of the Federal Securities Commission of 1911, recommending unreserved publicity. Its due enforcement would undoubtedly thwart the purposes of the dishonest promoter or speculative management, without occasioning serious embarrassment to straightforward financing. The Chicago & Alton and some of the Union Pacific episodes would never have occurred; while constructive policies might freely have been pursued. Some measure of private gain might have been cut off; but the general stockholders and the public would have been far better off.

Since writing the above, the Democratic majority in Congress has enacted an important measure amending the Anti-Trust law at many points.[1] Although primarily directed to the regulation of trusts it contains a number of provisions dealing with the corporate relations of railways. As originally introduced, interlocking directorships were absolutely prohibited in every form.[2] But fortunately this absurd and drastic measure was toned down considerably. For common carriers as in other lines of business, no person, under the law as enacted, may at the same time serve in any responsible position including the directorate, who has at the same time any direct or indirect interest in any other connection which may conflict therewith to the amount of more than $50,000 in any one year; unless all such dealings shall be by competitive bidding after due public notice including full details as to the personality of those jointly concerned.[3] Banking institutions, originally included in this section, were subsequently stricken out. Whether private banking houses which are just as truly supply men as those who sell rails or coal are also prohibited

[1] Based upon the Report of the Senate (Clayton) Judiciary Committee Report; 63rd Cong., 2nd sess., H. R. Rep. no. 627. Outlined as to railroads in *Quarterly Journal of Economics*, vol. XXIX, 1914, p. 81 *et seq.*; and *Amer. Economic Review*, March, 1915.

[2] *Cf.* F. H. Dixon in *Journal of Political Economy*, XXII, 1914, pp. 937–955.

[3] *Cf.* 31 I. C. C. Rep., 61, for the New Haven.

from duplicate service is not perfectly clear.[1] Full reports are required in all such connections to the Interstate Commerce Commission. Intercorporate stock ownership is also regulated, although less drastically than in the case of trusts. Railroads are specifically allowed either to control, or to aid in the construction of, subsidiary lines wherever no substantial competition exists. The Interstate Commerce Commission itself, in connection with this legislation of 1914, submitted to Congress the text of a bill making it unlawful for any common carrier to acquire an interest in another transportation company by any means whatsoever without prior administrative approval. It expressed a preference for such legislation over a statute conferring general authority in the matter of security issues. But no action along this line has yet been taken by Congress.

The final provisions of the Clayton Act, which affect railroads, taking a lesson from the corrupt chapters of New Haven and Rock Island finance, had to do with the individual liability of responsible officers or directors. Whether it is possible to add force to the prevailing common and statutory law, and particularly whether the abuse of inert directorship can be bettered by such means, is not yet clear.[2] The fact remains that however violative of freedom and independence, and however contrary to both law and equity, interlocking directorates and stock ownership may be, relief must ultimately come from an aroused public sentiment, coupled with extreme vigilance on the part of the administration. Conceivably the enforcement of personal liability of directors might even add to the prevalence of dummies. The greatest hope for the future must be the force of public opinion as stimulated and rendered effective by entire publicity in every domain of the business.

[1] *Cf.* Pujo Report, 62nd. Cong., 3rd sess., H. R. rep. no. 1593, p. 55 *et seq.*

[2] *Cf.* especially *Harvard Law Review*, vol. XXVI, 1913, pp. 467–492. The outcome of criminal suits against the New Haven directors, instituted in November, 1914, in view of President Roosevelt's express approval of its merger policy, may not yet be predicted.

CHAPTER XIV

COMBINATION: EASTERN AND SOUTHERN SYSTEMS

RAILROAD combination in the United States down to the present time may be roughly divided into four periods. In the first, — that is to say down to 1870 — 100 miles in length constituted the maximum for efficient operation. The Illinois Central, with 700 miles of line, was long considered one of the greatest railroads in the world. Until after the Civil War there was only one road with a length aggregating more than 1,000 miles. This growth began early in the '50s, at which time the Pennsylvania system first surpassed 500 miles in length; and in 1853 to 1858, when the New York Central nucleus was formed by the consolidation of some sixteen independent corporations. In the territory beyond Chicago, the Chicago & Northwestern road operated but 119 miles in 1859, a figure which rose to

upward of 500 in 1866. The inconvenience, both for freight and passenger traffic, incident to these small systems was quite obvious. It is stated that, for instance, a journey from New York to the Mississippi in the '50s involved not less than seven bodily transfers from one car to another.

The twenty years down to 1890, at which time 5,000 miles was about the maximum length of a single railroad, cover the second period in the development of the larger transportation units. The Pennsylvania first attained the length of about 4,000 miles in 1880. Two years later the Lake Shore & Michigan Southern absorbed its parallel line, the "Nickel Plate" road. Then, when in 1885 the New York Central picked up the West Shore, the Vanderbilt system under common control first attained sizable proportions. Even west of Chicago, the Vanderbilt interest was already strong in the Chicago & Northwestern, which by 1886 had about 3,500 miles of line. Some 1,500 miles more were soon added in subsidiary properties. By 1889 the Union Pacific owned 2,000 miles of line and controlled nearly 4,000 more. Whether the Act to Regulate Commerce of 1887 appreciably affected the growth of large units or not is entirely obscured in face of the more important direct effects of general prosperity or stagnation.

Single systems comprising as much as 10,000 miles of line appeared for the first time after 1890. The Pennsylvania rapidly increased in size to a mileage greater than 7,000. And the interchange of business attendant upon close working agreements and community of ownership between the trunk lines and roads west of Chicago, foreshadowed even closer relationship in future. The changes down to the present time are shown by the following table. The results cannot be given by official data except for what is now a relatively small unit of operation, 1,000 miles of line. But the figures are significant. A steady increase in the proportion of roads of a greater length than this is apparent decade by decade. According to the table, the greatest change ensued in the '80s.

But a similar table constructed for operating units exceeding 5,000 or even 10,000 miles in length would undoubtedly throw the tendencies during the next decade into high relief. The

ROADS OVER 1000 MILES LONG

	Number	Per cent. of U. S. Mileage
1867	1	7
1877	11	20
1887	28	44
1896	44	57
1900	48	60
1910	54	67

spread of consolidation, especially since 1900, has been so marked that there has been an actual decrease in the number of independent operating roads. During the decade to 1910, 300 more railroads came into being; but the number independently operated fell from 847 to 829.

The period of depression of 1893–'97 retarded for some time the growth of railroad systems. In fact, dismemberment of a number of important properties took place in connection with bankruptcy and reorganization. The Atchison lost the "Frisco"; and the Union Pacific was bereft of the Oregon Short Line. This second system, in fact, was entirely dismembered. The Erie was about the only important property which underwent reorganization, and at the same time successfully resisted the disrupting tendency of financial readjustment.[1] Low-water mark in consolidation occurred in 1898 when only 174 miles of line changed hands. It was during these years of depression that the rubbish was cleared away for the constructive work of consolidation which characterized the ensuing decade. A striking example is the Southern Railway, which already in 1900 aggregated almost 40 smaller railroads in a system comprising about 7,000 miles of line. Preliminary to

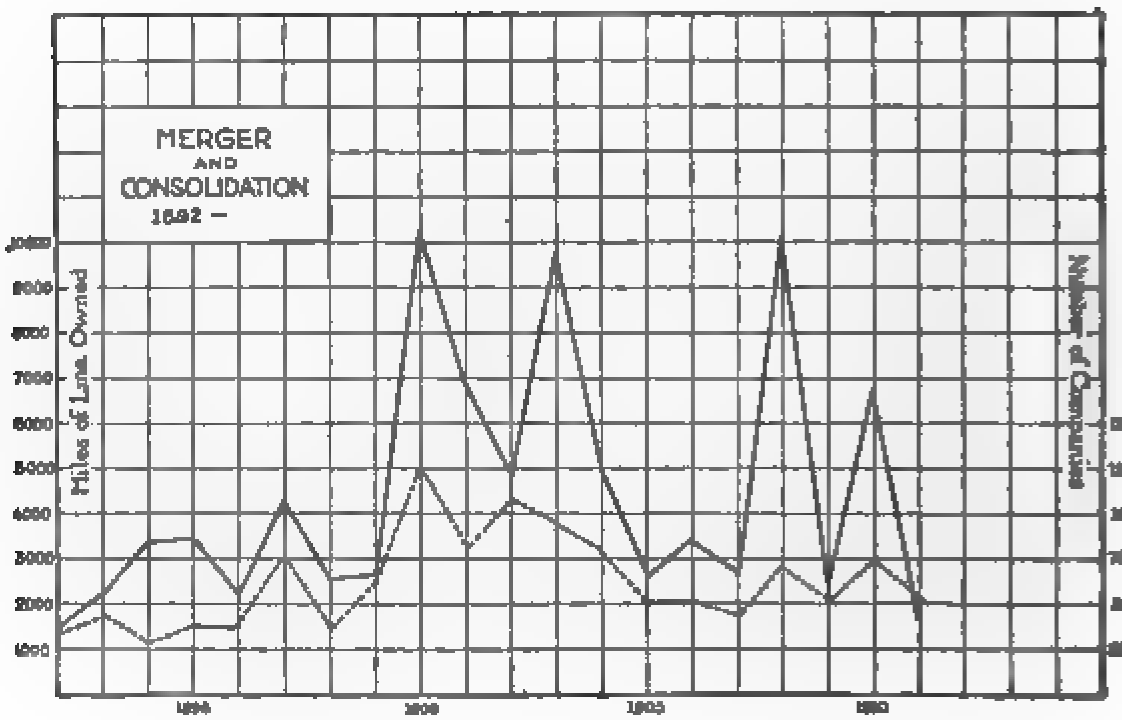
[1] P. 405, *supra.*

this work, however, was a complete break-up and reconstruction of the Richmond and West Point terminal. Such occurrences are typical of the decade of the '90s.

The working out of the higher strategy in railroad consolidation was the most significant feature of American transportation history in the decade to 1910. Within this brief period what now promise to become more or less permanent financial and operating groups, evolved out of the competitive chaos of the period of depression of 1893–'97. Nor was the growth of large units confined to railroading alone. In fact, the rapid rise of great banking units undoubtedly had much to do with the activity in this direction in the railroad field. All the various events of the period naturally dovetail together. Rising freight and passenger rates; growing interest in governmental control; hostility to continued favoritism and personal discrimination; the growth of the trusts; it is difficult to determine the order of causation. Combination in every department of commerce was in the air. It was the spirit of the time. But undoubtedly the intimate association of railroads with great banking houses in New York favored, if it did not actually bring about, many of the great combinations. Moreover, the return of railroad securities in large volume from Europe as a result of the panic of 1893, afforded a unique opportunity to great financiers to acquire control of properties and thereafter to shift them bodily from hand to hand as inclination and opportunity dictated. Speculation in earlier years was more largely confined to sales of stocks and bonds; now it became common to buy and sell entire railroads through transfer at one time of controlling portions of their shares. As one witness in an important transaction put it, — "We bought the Louisville & Nashville just as you would buy a box of candy. It was wrapped up and delivered to us, and we paid $50,000,000 for it. That was all there was to it." Popular attention was to some degree focussed upon the course of consolidation by reason of this highly accentuated control by bankers or stock-

exchange houses, with the attendant speculative activity on a large scale to which attention has already been called.[1]

The course of consolidation during the last twenty years for the whole country is exhibited by the following diagram, based upon data of the Interstate Commerce Commission. The solid black line indicates the mileage annually merged or consolidated in terms of the left-hand scale. The right-hand scale shows by the dots the companies whose identity



Solid line indicates mileage. Dotted line shows number of companies

was affected by such transactions. Both curves emphasize the prominence of railroad combination from and after 1899. Within four years, that is to say down to the panic of 1903, 410 railroads aggregating about 32,000 miles of line owned, were thus merged and consolidated. But even these figures fail to show the extent of the movement. The chart is useful as exhibiting fluctuations year by year. But it does not include the large number of combinations which took the common form of mere purchase of capital stock without actual merger. And, as we have already seen, most of the great systems came to be articulated in this way. Thus, the earlier

[1] Chap. VI, *supra*. On banking affiliations, *cf.* p. 424, *supra*.

systems which during the '90s rose to a maximum of 10,000 miles of line, were superseded by financial groups controlling from 15,000 to 20,000 miles of line apiece.

The suddenness of the outbreak of combination with the return of prosperity about 1898 may be judged from the statement of the Interstate Commerce Commission that "disregarding mere rumors and taking account of well-authenticated statements, there were absorbed in various ways between July 1, 1899, and November 1, 1900, 25,311 miles of railroad. There are in the whole United States something less than 200,000 miles of road; more than one-eighth of this entire mileage was, within the above period, brought in one way and another under the control of other lines." The Rock Island was a leading instance. With 3,800 miles of line in 1901, its length rose within less than five years to a total in excess of 15,000. The highest flight of railroad combination occurred, as we shall soon see in detail, in the final exploits of the late E. H. Harriman in 1906, in investing the proceeds of his speculative operations with Union Pacific funds in the stocks of other railroads all over the United States. Absolutely controlling nearly 25,000 miles of line, the Union Pacific stock holdings powerfully influenced over 30,000 miles in addition; while other Harriman alliances indirectly affected some 16,000 miles over and above this. A stupendous and top-heavy pyramid was thus erected comprising perhaps one-third of the railway net of the United States. The death of Harriman in 1909 put an end to this dangerous tendency toward combination which seemed to have no limits at the time.

There is every indication that the combination movement was brought to a close by a process of financial exhaustion. In how far the size of the resultant unit conformed to the demands of operating efficiency seems open to question. For a time it seemed as if the railroad groups were so firmly established and well-defined by mutual agreements of the parties in interest, that they might be regarded as more or less perma-

nent. Even the new and undeveloped territory appeared to be partitioned off by treaty and alliance. The shifting panorama of years of struggle for supremacy promised to be succeeded by a sort of stable equilibrium. Something akin to the balance of power in Europe was indicated; whereby any wholesale readjustment of relationships within a single system might entail too great results upon other financial or operating groups to be permitted to occur. But prophecies to this effect failed to reckon with two human and political certainties. Foremost among these was the frailty of man's existence. The deaths of Harriman in 1909 and of Morgan three years later removed the main-springs of constructive effort in the direction of consolidation. And the rising hostility of the public to monopoly was exemplified in increasing pressure by public authority under the Sherman Anti-Trust Act. And then again, all of the financial excesses of the frenzied years of speculation came home to roost along about 1910. In response to all of these influences certain of the great consolidations, as we shall see, began to go to pieces. The Gould system died of inanition; the Rock Island, of internal corruption; and the Union Pacific and New England monopolies by mandate of the Federal Department of Justice. How far back the pendulum will swing in the direction of dissolution it is difficult to foresee. But a cycle of development of extraordinary interest to the economic student in all its interesting details bears every indication of approaching completion.

The transportation problem of New England is unique.[1] As an economic unit it is on the far outskirts of the central commercial territory of the United States, for many years debarred by a high protective tariff from intimate trade rela-

[1] Among the official sources for New England the following are to be noted: 27 I. C. C. Rep., 560; 31 *idem*, 31; Original Petition, *U. S.* v. *N. Y., N. H. & H. R. R.*, District Court U. S. So. Dist. N. Y., pp. 104 with maps; Review of the New England Traffic Situation, Boston Chamber of Commerce, 1913. *Cf.* also references pp. 251 and 442, *supra*.

tions with the neighboring background of Canada. Highly developed industrially, it is nevertheless divided from the great non-manufacturing and consuming regions of the West and South by the competing manufacturing states of New York and Pennsylvania. Remote also from coal and iron deposits, its industrial activities must be confined to the less bulky, highly specialized forms of manufacture, in which the element of labor cost outweighs that of mere raw material or cost of transportation. It is densely populated, its main asset being its ample supply of high-grade labor. Thickly dotted with large cities and towns, passenger business is of equal importance to its railroads with the carriage of freight. The main problem of its railroads, viewed broadly, therefore, must ever be to foster these manufacturing industries in two ways: first, by provision for the cheapest possible carriage of raw materials, coal, cotton, iron and steel; and secondly, by ensuring a relatively low cost of living by low freight rates upon foodstuffs. With these two essentials, prosperous industrial conditions promised to yield an ample return to the New England railroads in the most profitable business of distributing high-grade New England products all over the United States. The old-fashioned policy used to be to charge all that all the traffic would bear, whether coal, and steel bars or cotton cloth and hardware. Such a policy accentuated the geographical isolation of the region; and rendered it increasingly difficult to maintain competition with the rest of the country. Cotton mills sprang up in the South; shoe factories in the Middle West; and many of its iron manufactures disappeared entirely. A far-sighted policy would make the furnishing of cheap foodstuffs and raw materials almost a charge upon the carriers; for the sake of stimulating the production of those high-grade manufactures which yield most profitable traffic in return.

The first essential, theoretically, in carrying out the programme outlined above, would be to create transportation agencies in New England, large enough and powerful enough

to deal with other connecting railroads on even terms. Formerly, with disjointed and independent railroads outside of New England under conditions of keen competition one with another, foreign negotiations and alliances were not disadvantageously conducted. If the New York Central refused to concede fair proportions of a joint through rate, it was possible to turn to the Erie or the Pennsylvania. But with the formation of great systems after 1900, and especially with the disappearance of competition among carriers throughout trunk-line territory, the small New England roads found themselves greatly handicapped in protecting the interests of their clients. It seemed essential that all the weight of a united New England system should be massed, in order that its special territorial transportation rights should be safeguarded. Such was certainly a strong incentive toward combination of all the New England railroads under one powerful leadership. Another equally powerful factor in bargaining with connections, west and south, was the independent possession of alternative routes to important interior points. Not alone a substantial monopoly within the home territory, but the actual control of such independent lines to the coal fields, to the Great Lakes and the Saint Lawrence, as should insure respect and fair treatment, seemed essential to the success of a broad progressive policy.

Another peculiarity of New England, from a transportation point of view, is the intricate and retail character of much of its commerce. Its highly specialized manufacturing centres demand free and easy communication in every direction for their fullest development. Not great shipments of staple commodities over long distances, east and west or north and south; but convenient and efficient articulation of related manufacturing centres is needed. Prompt delivery of shoe machinery from Beverly in Brockton, or of hardware from Worcester in Lynn, was essential. Interlacing cross routes, a multiplicity of junction joints, combined with the retail character of much of the traffic, were naturally productive of delay,

inconvenience and a high cost of operation, not alone for the railroads but for manufacturers as well. Yet general and orderly routing of freight was difficult under separate and often competitive railroad administrations. And bodily transfer both of freight and passengers at Boston, the meeting point of all lines, was an insuperable obstacle to promptitude and efficiency. Consolidation of lines radiating from this centre to all parts of New England, with every facility for direct physical connection, avoiding the necessity of congestion at this point by means of the establishment of handy junction points outside, promised, theoretically, abounding and valuable results.

The very density of traffic, particularly of passengers, in New England territory constituted in itself a certain menace to the steam railroads. With the growth of inter-urban trolley lines, the railroads were threatened with the loss, not only of much of their local passenger business but of their high-grade and lucrative less-than-carload traffic as well. Many of these local enterprises sprang up all over New England after the middle of the '90s; and then, a decade thereafter, began to articulate into formidable competitors with the railroads even for considerable distances. These trolley lines seldom cost $15,000 a mile to build, whereas the railroads were capitalized, — and honestly so — anywhere from three to ten or more times as much per mile of line. These street railroads, of course, could not furnish through passenger service, nor could they carry bulk freight; but, on the other hand, they threatened to capture much of the express service, the light freight business and local passengers, by rates prohibitively low to the steam roads. The trolley competition became increasingly keener with the passage of time. Numerous connections were thrown out to the back doors of factories; and the transportation of workmen to or from these establishments was captured. Much of the highly specialized manufacture going out in small package shipments, roads like the New Haven were soon left with the unenviable burden of supplying coal to the factory at six mills per ton

mile, — an unremunerative rate — and then of taking what bulk freight the shippers found it inconvenient to turn over to the trolleys. Two remedies for this situation were at hand. One was to meet this competition by a quick appreciation of the demand for prompt and cheap service, and thereby forestall rivalry by the very excellence of the steam railroad facilities offered. Such is the policy characteristic of the British railways in supplying the local needs of a densely populated territory. The alternative was to attempt to throttle this competition or to keep it within bounds by the acquisition or financial control of the light railways, as fast as they appeared upon the scene. In yet another way the wealth of traffic proved an embarrassment. Freight trains were continually in the way of the frequent passenger service. To transport heavy bulk freight in such a manner as to keep the rails clear for express traffic, necessarily entailed great expense. Many of the economies realized by slow low-grade freight movements in the West were entirely impossible.

And, finally, it was urged by the advocates of consolidation, the upbuilding of New England demanded such powerful railroad combinations as should be able successfully to demand a fair share of the export business of the United States for New England ports, not alone for the profit thereof, but also because without such flourishing export traffic, first-class steamship service for the sake of imports and passenger business would be impossible. Mere export business in itself is of secondary importance, except as it contributes to this end. In short, financial power and the highest operating efficiency, it was said, all depended upon combination carried to the point of complete territorial monopoly.

The history of the transformation of the old-fashioned and disjointed railroads of New England into a single monopoly is comparatively recent. Prior to 1900 a most significant feature was the division of the field north and south of Boston between two companies, each of which agreed to respect rigidly the

territory of the other.[1] The thin line of the Boston & Albany running due west across Massachusetts marked the boundary line between the two. On the south during the '90s the New Haven company aggressively picked up all of its competitors as well as all the local disconnected lines. Among the most important of these was the lease of the Old Colony, covering southeastern Massachusetts and including the important Fall River boat line to New York. The next important acquisition was the purchase under foreclosure proceedings of the old New England Railroad which operated an air line between Boston and New York; but which for years had dragged out a miserable existence by reason of the lack of terminal facilities at the southwestern end. Some of the details as to the acquisition of the property afford interesting reading. The methods employed to exclude this direct line from participation in through business were quite discreditable. Among other details may be mentioned an agreement by the New Haven to pay the New York Central $5,000 in ten annual installments, added to the rental of the Grand Central Station, on condition that the New York Central acquire the Housatonic Company which operated a line of car floats into New York. Thereafter it was part of the plan to close this outlet to the New England line. Progressively during the '90s all of the little properties through Connecticut and Rhode Island were merged in the New Haven monopoly. At the same time in the northern field, the Boston & Maine was actively forging a system of its own, mainly by means of long-time leases gaining a dominant ownership throughout its territory. The Concord & Montreal system, leased in 1895, was among the most important acquisitions; but within a few years all of the smaller properties were picked up. The final step was the acquisition in 1900 of the Fitchburg competitive through route to the West along the northern border of Massachusetts.

[1] The text of this agreement is in the Original Petition of the U. S. above named, p. 103.

A second phase of consolidation in New England began with the twentieth century in consonance with the general movement in that direction all over the country. The New York Central extended its lines to Boston in 1900 by a long-time lease of the Boston & Albany. Removal of this independent road left transportation about evenly divided, otherwise, between two great territorial monopolies, each with somewhat over 2,000 miles of line ramifying out from Boston. Renewed active expansion of the New Haven started in the following year, the first event being the acquisition of the New York, Ontario & Western road. This not only gave direct access to and ownership in the Pennsylvania hard-coal fields, but also, in connection with purchase of the Central New England road, of an independent line to the Great Lakes and a new trade route across the Hudson river. The acquisition within three years of almost all competing or connecting electric trolley lines throughout Connecticut, Rhode Island and Western Massachusetts was next in order.[1] This step was followed in 1907 by the most important act of all, the purchase through exchange of stock of a practically controlling interest in the Boston & Maine road. Thus the two territorial monopolies were welded into one, the only remaining independent line into Boston being the Albany-New York Central line. In 1911, by a co-operative arrangement whereby profits or losses of the Albany road were to be shared alike between the New Haven and the New York Central, this line was also brought within the combination; and at the same time by purchase of the Rutland Railroad, the New Haven gained an outlet both to Lake Ontario and Montreal. This route, with the Ontario & Western, it was alleged, guaranteed an independence of other connections of great importance as a factor in subsequent strategy. In this connection, it should be added, a New Haven alliance with the great Pennsylvania system, particularly in view of an approaching physical connection

[1] On the financial methods employed, *vide* p. 251, *supra*.

by tunnel under New York, was believed by many to be imminent.

The creation of a transportation monopoly in a territory geographically circumstanced like New England, necessitated the control of steamship lines as well as railroads.[1] In 1893 New England water transportation was done by twenty boat lines operated by seventeen companies. Most of these were independent, ranging all the way from local enterprises on Long Island sound to companies operated to the Provinces on the north and as far as Virginia and Georgia on the south. After 1893 nine new boat lines were established; but as a result of the aggressive policy of the New Haven company twenty-two of these were bought up within a very few years. Some of these were acquired fairly and openly in the public market. Others were bludgeoned into parting with their properties by the most unfair sorts of competition. All of the efforts of the Boston Chamber of Commerce to secure the establishment of lines to Texas and elsewhere were blocked by the steady opposition of the railroad monopoly, which sought thereby in the interest of New York or of its connections to throttle such independent enterprises. And, on top of it all, in order to close the way forever to the development of coastwise transportation, the New Haven company by all sorts of devious means bought up and controlled all of the available water front, not only in Boston but all along the seaboard of New England. The result was within a few years to bring about an absolute control of approximately 90 per cent. of the water transportation to, from and among the New England states.

The rapid and widespread progress of consolidation above described, naturally occasioned the utmost concern to shippers

[1] Best outlined in Original Petition *U. S.* v. *N. Y., N. H. & H. R. R.*, District Court U. S., So. Dist. N. Y., pp. 59–75; a Review of the New England Traffic Situation, 1913, Report by D. O. Ives to the Chamber of Commerce, Boston. The U. S. Bureau of Corporations on Transportation by Water, pt. 4, 1913; 21 I. C. C. Rep., 560, 31 *idem*, 31; Boston *Transcript*, May 16, 1914.

and the general public. A bitter political struggle ensued, in the course of which almost a legal deadlock was reached. Delicate questions of state regulative rights were raised between Connecticut and Massachusetts; and even the Federal authorities intervened by proceedings to compel dissolution under the Sherman Act.[1] For years it had been contrary to the established policy of Massachusetts to allow steam railroads to own trolley lines or, for that matter, to permit one steam railroad to control another. The pursuance of the New Haven policy of street railroad control, first begun in Connecticut, was speedily brought to a test judicially when extended over into Massachusetts territory. And a decree was entered in 1908 by the Supreme Court, enjoining the New Haven from further acquisitions or from continuing to hold such stocks after July 1, 1909.[2] This promptly brought the New Haven to terms, and a working compromise resulted in the following year. Massachusetts gave its consent to the continued control of the Boston & Maine, but required the intervention of a Massachusetts holding corporation, subject to the regulative power of the state, to serve as a financial nexus between the two great territorial monopolies lying to the north and south.[3] The New Haven, on its part, promised substantial improvements in service and ostensibly acceded to the popular demand for abstention from political activities. Its Boston & Maine holdings, deceitfully sequestrated for a time[4] in private hands, were transferred to the newly approved holding company. Its finances were officially investigated and approved by a so-called validation commission.[5] The way, as it appeared, was thus paved for the introduction of such economies in management and betterment of service as should promote the welfare of all parties concerned. Efficient monop-

[1] Well outlined in Boston *Transcript*, June 18, 1910. *Cf.* p. 571, *infra*.
[2] *Att'y-Gen'l, etc.*, v. *New Haven, etc.*, 198 Mass., 413.
[3] Financial details at p. 415, *supra*.
[4] P. 255, *supra*.
[5] *Cf.* p. 358, *supra*.

oly, instead of wasteful competition, was officially recognized[1] as a public policy for the future. Only one detail was lacking for a well-rounded programme. This was the important corollary to acceptance of the monopoly principle, that it should be accompanied by the fullest exercise of powers of regulation and supervision by the state. This did not come until 1913, in the creation of a new public service commission, after another bitter political campaign in which every agency of corruption was employed by the New Haven, then tottering to its fall, to thwart the will of the people.[2]

In view of the foregoing theoretical advantages of transportation monopoly, why did the New England experiment so completely fail in practice? Was it due to the inherent defectiveness of the monopoly policy, in and of itself, or to the means which were employed to put it into effect? Why, superficially promising so fair, did a few years' experience result in a catastrophe of the first order? Losses on every side occurred. Both principal and income were lost to stockholders, and all adequate service to the community as well. The outcome is bound to be of far-reaching effect upon the future policy of the state respecting competition among carriers.

The projected New Haven combination broke down utterly because it was an attempt to create a monopoly regardless of cost. The financial plans were not only reckless in the extreme, but in many respects dishonest as well. It is the same old tale, repeated time after time, of the bankruptcy which is bound to follow improvident financial management. It is one thing to acquire competitors in the interest of the economies attendant upon monopoly at fair and legitimate prices. It is quite another matter to purchase them, as the management was aptly described by an observant banker as doing, "like a drunken millionaire," regardless of first cost and reckless as

[1] Report, Mass. Commission on Commerce and Industry, March 18, 1908.

[2] P. 300, *supra*.

to the fixed charges or the effect upon free income available for the development of public service. Both the financial and operating management of the New Haven under the Mellen-Morgan *régime* was more than unwise; it was corrupt.[1] Nor did this corruption stop at secret profits to insiders. Despite the fairest promises of abstention from politics, every principle of political decency was violated down to the last moment of control. Wholesale bribery, veiled in various ways, of members of the legislature, of the press and of influential citizens, was resorted to, in a vain endeavor to "jam through" legislation and stem the rising tide of outraged public opinion. Corporate accounts were falsified; unearned dividends were declared; solemn engagements of every sort were broken; and, to cap the climax, the chief offender, devoid even of a sense of honor among rascals sought personal immunity from Federal prosecution by "peaching upon his pals." Lasting obloquy should attach to the name and reputation of every one, from the president down, responsible for this great financial catastrophe.

One of the most depressing aspects of the New Haven collapse was the entire absence of a sense of accountability on the part of the administration, either to the public on one side for transportation service, or to the shareholders on the other for protection of their investment. No obligation of trusteeship is apparent either in the financial or operating department. The local constituency, whether of merchants or travellers, was persistently offended by blundering attempts to sacrifice the interest of New England to those of New York. The axiom that you cannot operate a line in an enemy's country was entirely disregarded. It seems to have been believed that a campaign of falsification, and subornation of perjury, coupled with a dash of bluff and bluster, could be relied upon to deceive the intelligent public, in the face of a complete break-down of service and an obvious and growing financial strain. Whether

[1] For details, *cf.* pp. 251, 442, etc., *supra*.

it is fair to judge of monopoly, as to its possible advantages in an operating way, by this unhappy affair is beside the main point. Certainly, in absence of competition, no wholesome rivalry productive of adequate service can be expected without either an exalted sense of responsibility and trusteeship on the part of the management or vigilant and effective public supervision. Absolutism, even if the autocrat be well-wishing, is at variance with the spirit of American institutions. The New Haven disaster goes far to justify the popular distrust of any undue concentration of power, even if, for the time being, the promised results did fail to follow. Once and for all in New England the question seems to be settled that even an honest transportation monopoly is inimical to the best public interest.

A clear comprehension of the recent progress of consolidation in Trunk Line territory, — that is to say in the populous states east of the Mississippi and north of the Ohio, — requires that it be considered in three parts.[1] Two great companies, rooted respectively in the states whose names they bear, — the New York Central and the Pennsylvania railroads, — covered this territory in 1900 with a net-work of interlacing branches.[2] Of these, as widely extended systems, the Pennsylvania was the older. Its principal outlines dated back to the '70s; whereas the New York Central with its main stem and many of its present lines equally old, was not financially co-ordinated until about 1900. Each of these two companies is in its internal development a study by itself. The third and perhaps the most interesting phase of trunk line consolidation consists of the mode in which these two great rivals, having each built up a great system of its own, undertook to co-operate for the

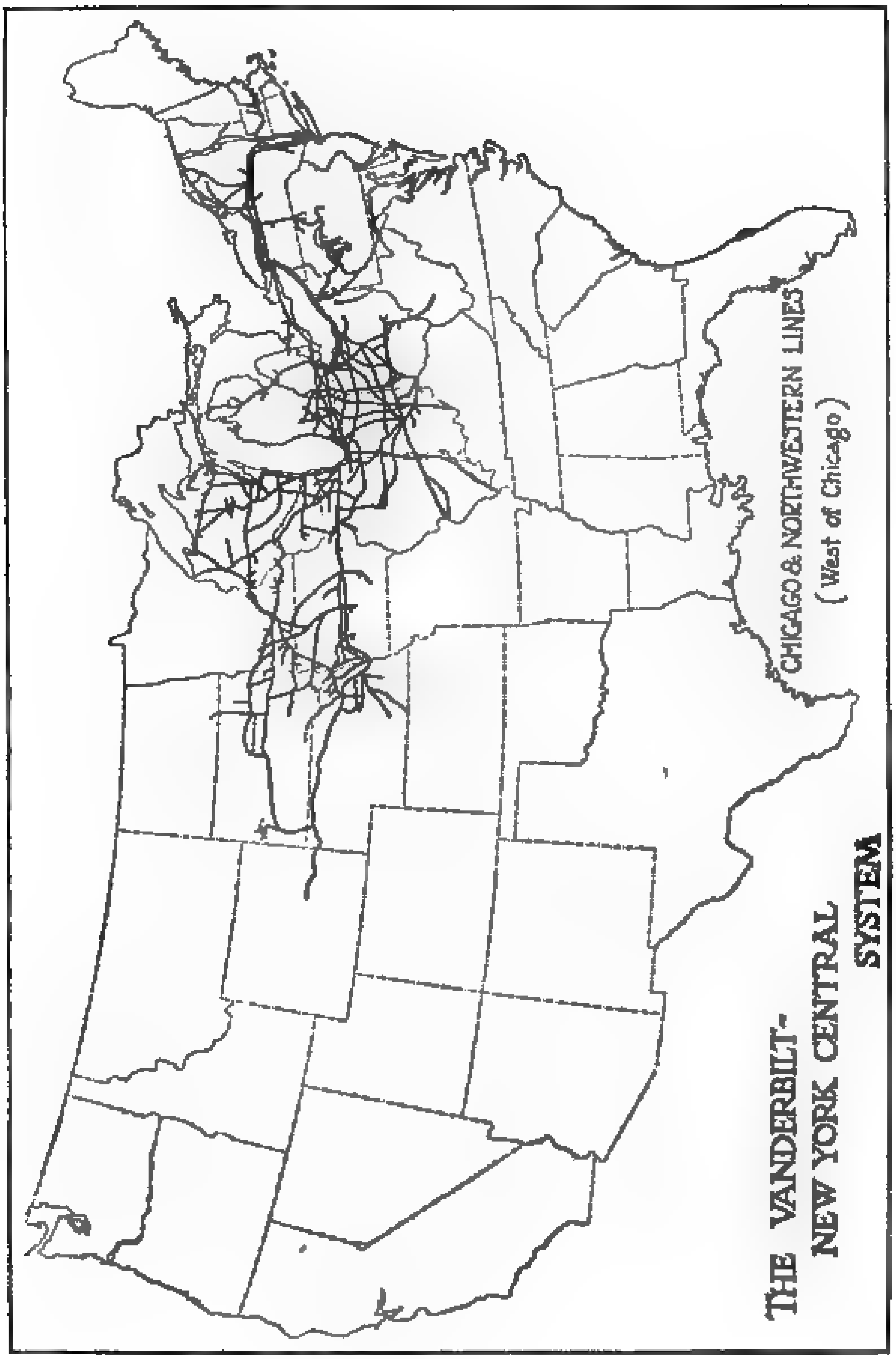
[1] Only two official references exist: The Special I. C. C. Report on Intercorporate Relations of Railways, 1908; and 59th Cong., 1st sess., H. R. Doc. no. 475. For the rest one must glean from the technical railway and financial journals.

[2] *Cf.* maps at pp. 475 and 477 respectively.

practical elimination of all competition from the host of other and lesser railroads within this area. For these other roads reached out from New York and Philadelphia toward the west and continually threatened the stability both of rate and financial structures in the entire district. It was regarded as essential that they be brought under common control.

The New York Central system remained until 1898 an end-to-end consolidation of many small connecting roads between New York and Buffalo. (Map opposite.) These followed the only water-grade line between the seaboard and the interior, closely paralleling the Hudson river and its main western tributary, the Mohawk. It was controlled by and largely administered in the particular interest of the Vanderbilt family. It was heavily capitalized and most conservatively operated. Such relations as it had with connecting lines beyond New York state were conditioned by the dominant position of its wealthy owners in the affairs of other railroads. The initial, and by far the most important, change occurred in 1898, — an event which laid the foundation for much of the subsequent expansion. This was the purchase of the Lake Shore & Michigan Southern Railway, extending from Buffalo to Chicago south of Lake Ontario. It also, incidentally, created a second direct line to Chicago, inasmuch as the Lake Shore already owned the so-called Nickel Plate line and the New York Central had already for many years leased the West Shore road, — both of these having been built about 1882 closely paralleling the then-existing lines. An offer to exchange New York Central 3½ per cent. bonds for stock of the Lake Shore road at $200 per share, was widely accepted; and subsequent purchases of the still outstanding Lake Shore stock have rendered the stock ownership almost complete.[1] The operation was financially simple and set a pattern for much subsequent consolidation all over the country. The New York Central bonds were of the collateral trust variety, secured by

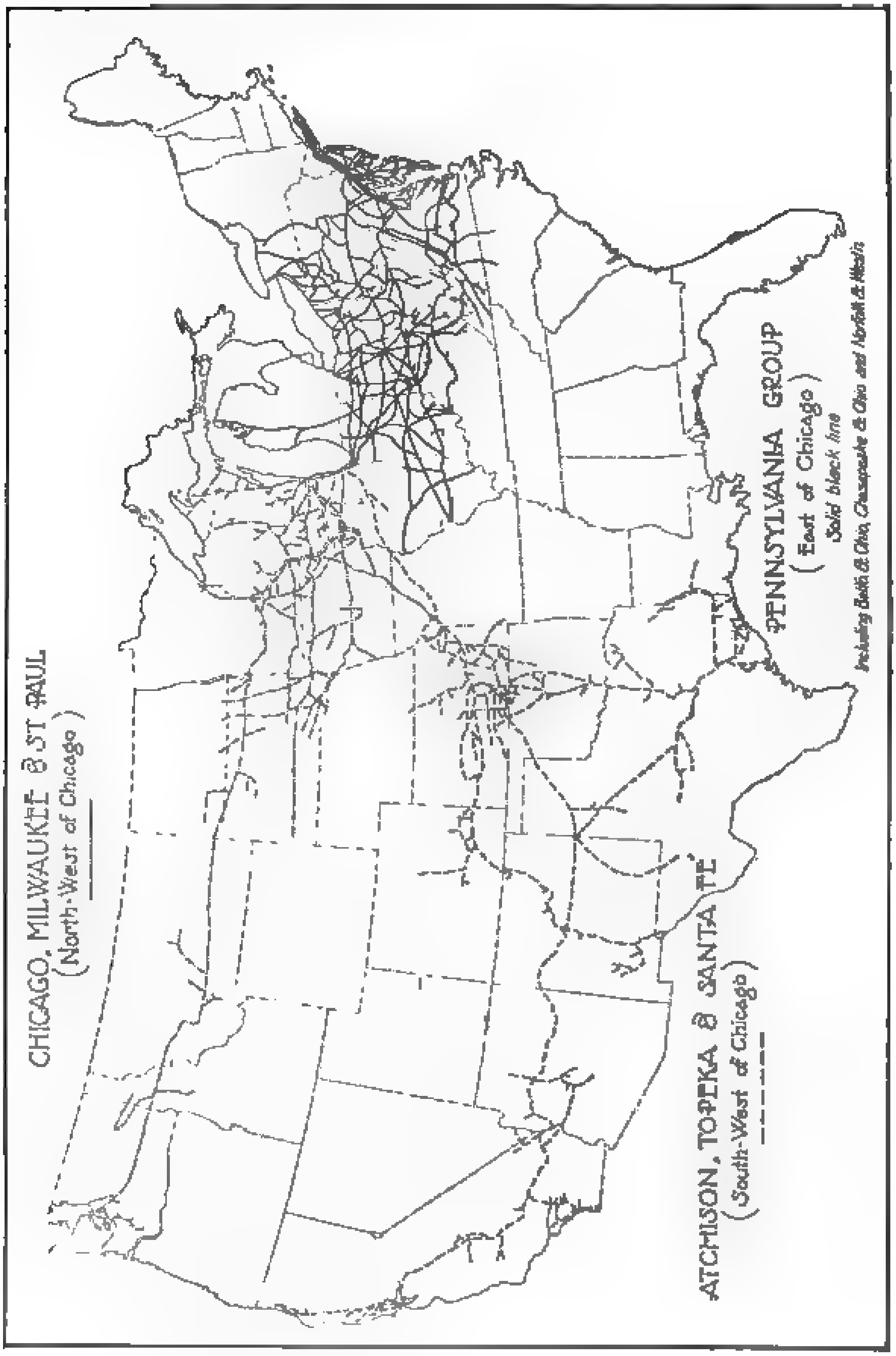
[1] Pp. 146 and 416, *supra*.


CHICAGO & NORTHWESTERN LINES
(West of Chicago)
THE VANDERBILT-
NEW YORK CENTRAL
SYSTEM

the deposit with trustees of the acquired Lake Shore stock. The funds for this expansion thus cost 7 per cent.; so that any returns on the purchased stock above this figure would accrue as profit to the New York Central company.

So successful was the first exchange of stock for New York Central bonds, that the Michigan Central railroad was taken over, thus providing a third direct line to Chicago, north of Lake Ontario. Thereafter it was important to reach St. Louis and the intervening territory of Ohio, Indiana and Illinois. This was effected by the acquisition in 1900–'01 of the Big Four road and the Lake Erie & Western. But it is significant of the relative financial looseness of the system, and of its dependence upon the Vanderbilt family, that the Lake Shore road for many years, at least, held only approximately 40 per cent. of the common stock of the Big Four road. At about the same time the Pittsburg & Lake Erie and the Boston & Albany railroads were added. In this manner a company controlling about 3,000 miles of line was within a very short time expanded to approximately four times that figure. Officially this was the extent of the New York Central system; but practically it derived greatly added strength from the control by the aid of the Vanderbilt family of the great Chicago & Northwestern road. This property gridironed the territory north and west of Chicago, extending out to the Rocky Mountains. It also possessed the most direct line to Omaha, giving the best connection with the Union Pacific for San Francisco. Thus adding some 9,000 more mileage, an aggregate resulted for the Vanderbilt system of about 22,000 miles of line.

By contrast with its great rival, above described, the Pennsylvania system is both financially and territorially more compact. (Map opposite.) It has no affiliations beyond the Mississippi; and actually owns instead of leasing a larger part of its operated property. Pennsylvania expansion was marked in 1900. First came the absorption of the Erie & Western Transportation Company, giving greatly enlarged facilities


CHICAGO, MILWAUKEE & ST PAUL
(North-West of Chicago)
ATCHISON, TOPEKA & SANTA FE
(South-West of Chicago)
PENNSYLVANIA GROUP
(East of Chicago)
Solid black line
Including Balt. & Ohio, Chesapeake & Ohio and Norfolk & Western

upon the Great Lakes. This was followed by the acquisition of the Western New York & Pennsylvania, which, by the control of a majority of the stock, gave an independent outlet to the Great Lakes at Buffalo. Two months later the Allegheny Valley Railway was taken in, adding 820 miles of line to its holdings. In the spring of the same year a majority of stock of the Long Island Railroad was purchased; and far-reaching plans were made for improvement of terminal facilities at New York. In 1901, also, came absorption of the railway lines to Washington and Richmond. Yet even with all these additions, the total mileage is scarcely more than half that of the Vanderbilt group.

The striking feature of the Pennsylvania system is the concentrated nature of its traffic. Traversing a populous manufacturing section, its mainstay is an enormous coal, and steel and iron tonnage. The New York Central is more dependent upon the great staple agricultural products of the West. While the Vanderbilt system was expanding widely, the Pennsylvania to a greater degree concentrated attention upon the costly problem of terminals at New York and of closer connection with the rich New England territory. Compactness; provision for such adequate service within its own domestic territory that rivals might not hope to gain foothold; and careful safeguarding of its dividend position were the main features of its policy. In one regard the corporate organization apparently served as a model for the Vanderbilt lines. For many years it has maintained a dual corporate existence. The ownership of all its properties west of Pittsburg is vested in the Pennsylvania Company, all the stock of which is owned by the Pennsylvania Railroad. This dual form was practically adopted by the New York Central with the acquisition of the Lake Shore road. For that company served its largest stockholder as a convenient repository for most of the investments of the system in subsidiary lines west of Buffalo. The convenience of this plan of organization for subsequent development was soon demonstrated.

Stability of traffic conditions in Trunk Line territory used to be at all times endangered by the competition, real or potential, of the lesser independent trunk lines and the hard and soft coal roads. There were three through routes to the west to be considered: The Erie, the Baltimore & Ohio and the Chesapeake & Ohio, naming them in order from north to south. The location of the Baltimore and the Chesapeake lines is shown upon the map of the Pennsylvania system, piercing the Appalachian highlands by lines directly west from the northern and southern ends, respectively, of Chesapeake Bay. The Erie and the Baltimore & Ohio, until reorganized after the depression of 1893–'97, were in a state of chronic indigence. Having little to lose, they had everything to gain from rate cutting, which of course immediately forced the two great companies to follow suit. Five or six coal roads, located as shown by the map at p. 535, were also highly disturbing factors, partly for the same reason. But certain of these roads were troublesome also, because, while supported mainly by their coal earnings, they could continually reach out for additional trunk-line business at rates ruinous to competitors dependent mainly upon that traffic. Nor was the power thus to disturb trunk-line rates confined to the lines north of Baltimore. Traffic from the seaboard to Chicago might move by round-about routes as far south as Asheville, North Carolina.[1] Both the Chesapeake & Ohio and the Norfolk & Western roads were necessarily comprehended within any plan aiming at stability of trunk-line rates as well as of enhanced prices for coal. And up to the north as well, other independent roads like the Ontario & Western, or Delaware & Hudson, were always open to arrangements for devious through routing from the west by way of the Canadian connections. Moreover, it was also clear in 1898, that great economies and profits might result from the creation of a tight transportation monopoly in this field. With hard-coal prices maintained by a firm

[1] Railroads: Rates and Regulations, chap. VIII.

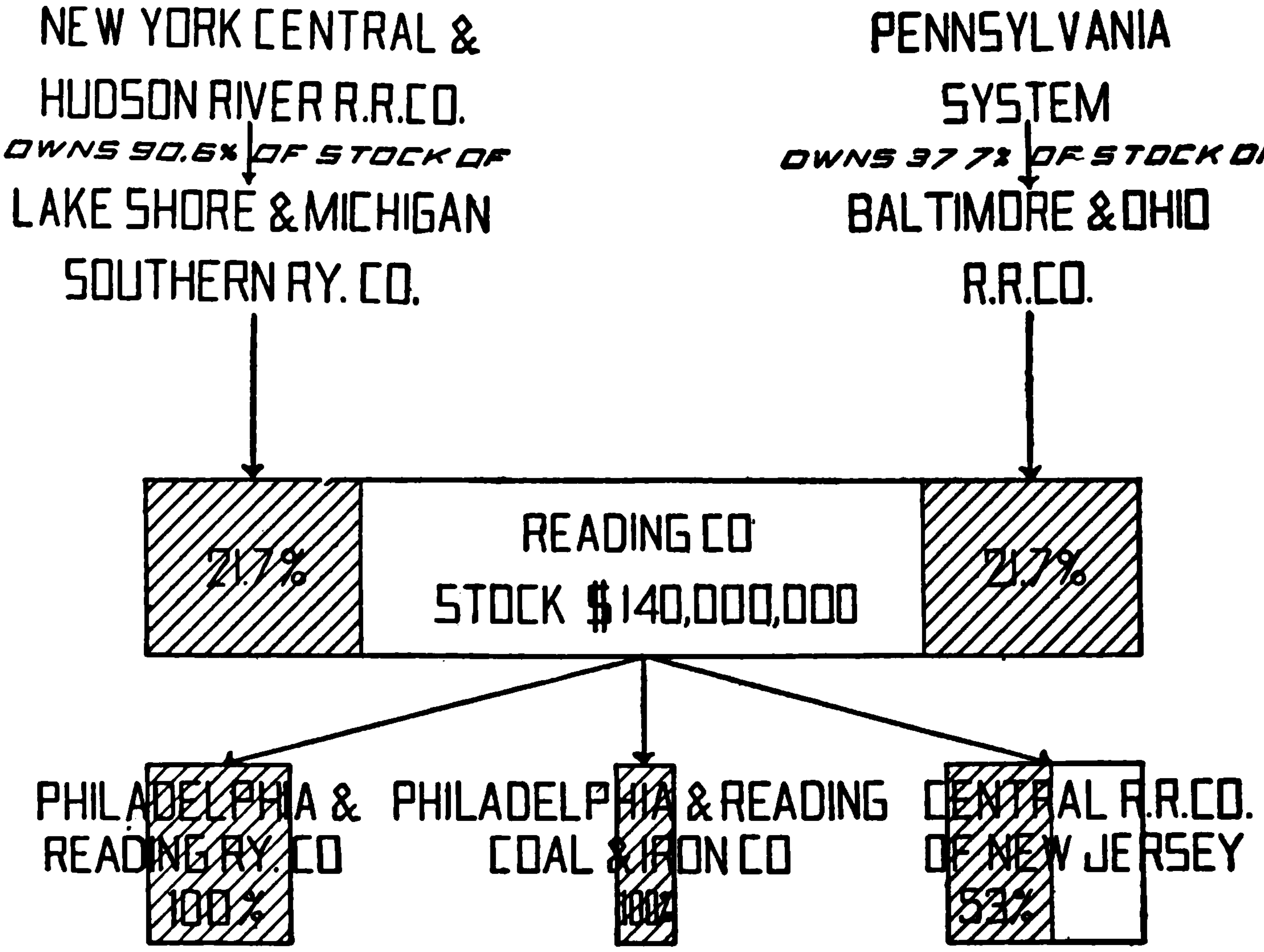
hand, and modern methods of transport adopted, these companies might be extricated from a financial slough. Subsequent events have amply justified this belief; but it seems probable that the decision of the two great companies to control their lesser rivals was mainly due to a desire to regulate the trunk-line rate situation. Control of hard and soft coal prices followed, rather as an after-thought and a rich by-product than as a primary motive.

The plan for controlling the lesser roads assumed the form of a secret Vanderbilt-Pennsylvania compact. It was carried into effect during the five years after 1900. By this agreement the New York Central, through its agent the Lake Shore road, was to protect the anthracite coal situation; while the Pennsylvania on its part was to attend to the soft-coal roads. In either case, it was important to avoid the express prohibitions of law as to the merger of parallel or competing lines. This was done by adopting the western portion of the dual New York Central organization as a financial agent; while the Pennsylvania made use of another subsidiary. The Pennsylvania road took the initiative, and first made substantial investments in the Baltimore & Ohio, Chesapeake & Ohio and Norfolk & Western roads, — all soft-coal properties. Then in 1903 the Baltimore & Ohio, in turn, was caused to invest heavily in the dominant hard-coal road, the Reading. These holdings it proceeded to share with the Lake Shore as agent of the New York Central. The resulting interlocked situation is graphically represented by the accompanying diagram.[1]

The process of absorption, above described, was in full swing, when within two years after 1903, there followed in quick succession the Northern Securities decision of the Supreme Court setting bounds to the use of holding companies, searching investigations by committees of Congress and the Interstate Commerce Commission, and finally the campaign of President Roosevelt for effective legislation to control railroads, ending

[1] Details in table on p. 150, *supra*. *Cf* also Eliot Jones, *op. cit.*, p. 61.

in the through amendment in 1906–'10 of the Act to Regulate Commerce.[1] The situation at that time is concisely described in a special report on the subject.[2]



"The Pennsylvania system on June 30, 1906, held $73,040,960, or 37.7 per cent., of the stock of the Baltimore & Ohio Railroad Company, and $34,230,000, or 39 per cent., of the stock of the Norfolk & Western Railway Company. This same system shared with the New York Central system a virtual control of the Chesapeake & Ohio Railway Company, the Pennsylvania system owning $15,630,000, or about 25 per cent., and the New York Central system $12,500,000, or about 20 per cent., of the stock. These two great systems extended their sway still further and exercised a very potent influence in the Reading company, through the ownership by the Lake Shore & Michigan Southern Railway Company and the Baltimore & Ohio Railroad Company of $30,332,500 each of Reading company stock, or a total of 43.3 per cent. It will be recalled from the discussion of holding companies that control of the Reading company carries with it the control of the

[1] Fully detailed in Railroads: Rates and Regulation, Chapter XV, *et seq.*

[2] Intercorporate Relations of Railways; Int. Com. Com., Special Report, 1908. For actual investments and paper profits, *vide* p. 140, *supra*.

Philadelphia & Reading Railway Company and the Central Railroad Company of New Jersey, over whose tracks the Baltimore & Ohio Railroad Company makes its entry into New York City. The Lehigh Valley Railroad Company is brought into the circle of interest through holdings of its stock by the Erie Railroad Company, the Lake Shore & Michigan Southern Railway Company, the Reading company, the Central Railroad Company of New Jersey, and the Delaware, Lackawanna & Western Railroad Company, the latter a railway closely affiliated with the New York Central system. A majority of the common stock of the Hocking Valley Railway Company, an amount which insures practical control, is held by the Pennsylvania system through the Pittsburg, Cincinnati, Chicago & St. Louis Railway Company, the New York Central system through the Lake Shore & Michigan Southern Railway Company, the Erie Railroad Company, and the Baltimore & Ohio Railroad Company." . . .

"In addition to the minority holdings just described the close affiliation of the principal eastern railways can be still further illustrated. . . . The stock of the Lehigh & Hudson River Railway Company is jointly held by the Erie Railroad Company, the Lehigh Valley Railroad Company, the Delaware, Lackawanna & Western Railroad Company, the Central Railroad Company of New Jersey, and the Pennsylvania Railroad Company. The Little Kanawha Syndicate, which holds the stock of a number of West Virginia and Ohio railways, partly under construction and aggregating about 80 miles of line, is controlled by the Baltimore & Ohio Railroad Company, the Pennsylvania Railroad Company, and the New York Central system through the Pittsburg & Lake Erie Railroad Company. Finally, a connection is made with the southern group of railways through the joint ownership of the Richmond-Washington Company, a holding company for the stock of the Richmond, Fredericksburg & Potomac Railroad Company and the Washington Southern Railway Company, by the Atlantic Coast Line Railroad Company, the Baltimore & Ohio Railroad Company, the Chesapeake & Ohio Railway Company, the Pennsylvania Railroad Company, the Southern Railway Company, and the Seaboard Air Line Railway.

"The extraordinary concentration of railway interests shown in the situation on the Middle Atlantic seaboard would lead to the conclusion that, so far as this group of railways is concerned, competition has been practically eliminated; for the motive that would lead to the fostering of such a policy has disappeared."

In response to the pressure of law and of aroused public opinion about 1906, the two main trunk lines soon proceeded to lessen their investments. This they were also pleased to do because of the large profits at which they could close out their

purchases. But in many cases they retained substantial minority holdings, — large enough, it was assumed, to prevent disturbance of the established harmony. In September, 1906, the Pennsylvania disposed of all of its Chesapeake & Ohio stock, and reduced its investments in Baltimore & Ohio and Norfolk & Western. A purchaser for the Baltimore & Ohio was found in the Union Pacific system; which, as we shall see, was reinvesting the profits of certain speculative operations in Northern Pacific at about this time. The New York Central disposed of its investments in rival lines somewhat later. It did not cause the Lake Shore, as its financial agent, to sell its Reading & Lehigh Valley holdings until 1908; and it did so then, apparently, only because of its own urgent need for funds for improvements on its own lines. Legally, the Lake Shore's position in owning stocks of coal roads and lesser trunk lines east of Buffalo, seemed to be stronger than that of the Pennsylvania. For the latter, in controlling its neighbors, especially the Baltimore & Ohio, was certainly violating the state's interdiction of combination of competing lines. But financially the Pennsylvania road seemed to be in better shape, although it also was sadly cramped in construction of its New York terminals by this diversion of vast sums into investment in other roads. One contrast between the two great systems may be noted at this point. The Pennsylvania seems to have avoided tying up its hands for the future by refraining from the issue of collateral trust bonds as a means of financing these operations. Selling stock or bonds convertible into stock, it might the more freely dispose of its investments as occasion offered, and at the same time keep the way open for sale of ordinary bonds in case of need. The New York Central financing seems to have been much less scientific both in plan and execution.

So far as the fiscal outcome of all these investments was concerned the two great systems were certainly fortunate. They not only enjoyed a substantial rate of return while these stocks were carried in their treasuries, but they were able also

to sell them ultimately at much higher prices than they cost. Paper profits at the height of the boom prior to the panics of 1903 and 1907 were in fact enormous.[1] But the losses under the low quotations of the periods of depression would also have been considerable. Actually, most of the stocks were closed out at substantial profits. Pennsylvania purchases of Chesapeake & Ohio stock for example were made in 1899 between $24 and $41 per share and were sold at above $60, — the aggregate profit being about $4,500,000. The Lake Shore paid for Reading stock about $80. It sold 100,000 shares at one time for $110. These are only samples of the fortunate outcome of these investments. They are not cited, however, as an extenuation in any degree of what must be regarded as a most dangerous tendency of the time, — a tendency most extraordinarily exemplified in Union Pacific financing of the period. Happily rate harmony in trunk-line territory having been achieved, partly as a result of this community of interest plan, and in part also because of the vigorous exercise of regulative power by the Federal government, the financial interlocking above described seems now to be considerably disentangled. The Pennsylvania, to be sure, in 1909 repurchased a part of its Norfolk & Western stock; but, on the other hand, the effects of the extraordinary partition of upwards of 25 per cent. of Lehigh Valley stock among its natural competitors in 1906, as revealed in the foregoing quotation, have been distinctly lessened by the subsequent sale in 1907–'08 both by the Erie and the Lake Shore of their Lehigh Valley holdings. There is no doubt that the financial solidarity of the entire body of trunk-line roads is as marked today as it was in 1906. But the relation seems to be considerably more personal, through great bankers or banking houses rather than by direct investment by one road in shares of its competitors. For a time unquestionably the dominant influence, especially in the anthracite coal lines, was that of J. P. Morgan and of the powerful New York banks and

[1] P. 150 *supra*.

insurance companies which were also within his control. But after his death and with the retirement, official at least, of his successors from the directorates of many of these roads, the semblance of independence became more marked. Whether it is real or not remains in the womb of the future.[1]

A later phase of consolidation in trunk line territory seems to be associated with the southerly drift of coast-to-coast and long-distance traffic. Geographically, the southern seaports, notably Charleston, are nearer the Middle West than those of the North Atlantic. Baltimore, as so often emphasized in the Port Differential cases,[2] is considerably nearer Chicago than is New York. Consequently, outlets and connections by the northern trunk lines toward the south have been sought of late. The New York Central in 1912 by means of a traffic agreement with the Western Maryland, together with a short piece of construction, gained access to Baltimore. And the renewed investment of the Pennsylvania in the Norfolk & Western may, perhaps, have been influenced by considerations of the same sort. Several independent and troublesome roads south of the Great Lakes have also been picked up latterly by the southern trunk lines in order to make water connections to the north. The Chesapeake & Ohio after 1909 constructed a line to Chicago, and at the same time invested heavily in the Hocking Valley and the Kanawha & Michigan,[3] thus reaching Lake Erie at Toledo. And the Baltimore & Ohio, evidently in pursuance of the same end, was persuaded to take over the Cincinnati, Hamilton & Dayton. Repeated attempts had been made by banking houses for a number of years to unload this decrepit property upon a succession of stronger companies.[4] The Erie barely escaped. But it finally found lodgment with the Baltimore & Ohio in 1909; greatly, as might have been foreseen, to its new sponsor's loss. Thus did the last independent

[1] *Cf* chapter XIII, *supra* on interlocking directorates.
[2] Railroads: Rates and Regulation, p. 404.
[3] P.424, *supra*.
[4] P. 216, *supra*.

cross road in trunk line territory lose its identity, — the so-called "Clover Leaf" (Toledo, St. Louis & Western) having tied itself up in 1907 to the Chicago & Alton. Before leaving the trunk-line situation one important point also remains to be noted; viz., the manner in which, all smaller independent roads now being controlled in the interests of harmony, the incursion of troublesome competition from abroad has been forestalled. The Grand Trunk road, for example, formerly enjoyed an independent avenue of approach from Canada to New York City, by way of the Rome, Watertown & Ogdensburg and the Ontario & Western. Of these, the former is now in the Vanderbilt fold, while the latter has been absorbed by the great New England system. And control of all the smaller coal roads which might be bought up, is safely lodged, so far as their stocks are concerned, in safety vaults in New York City. It is difficult to conceive of any serious disturbance of the present equilibrium. A permanent condition of monopoly has taken the place of unregulated and often destructive competition.

The next great territory in which actual financial consolidation has since 1900 taken the place of unregulated, or at best imperfectly controlled, competition is that of the southern states east of the Mississippi. The complexity of the rate situation has always been great.[1] This is due to several causes. The interlacing net-work of poorly constructed roads serving a very sparsely settled region, was largely dependent upon particular crops, notably cotton. Many distributing centres of about the same size were keen rivals for trade. And the entire territory was open to water competition from the ocean on two sides: the Mississippi and its tributaries on the west; and the deeply penetrating coastal rivers from the south and east. The imperative need of some restraint upon competition led to the formation and successful conduct for many years of the most

[1] Fully outlined with map in Railroads: Rates and Regulation, p. 380.

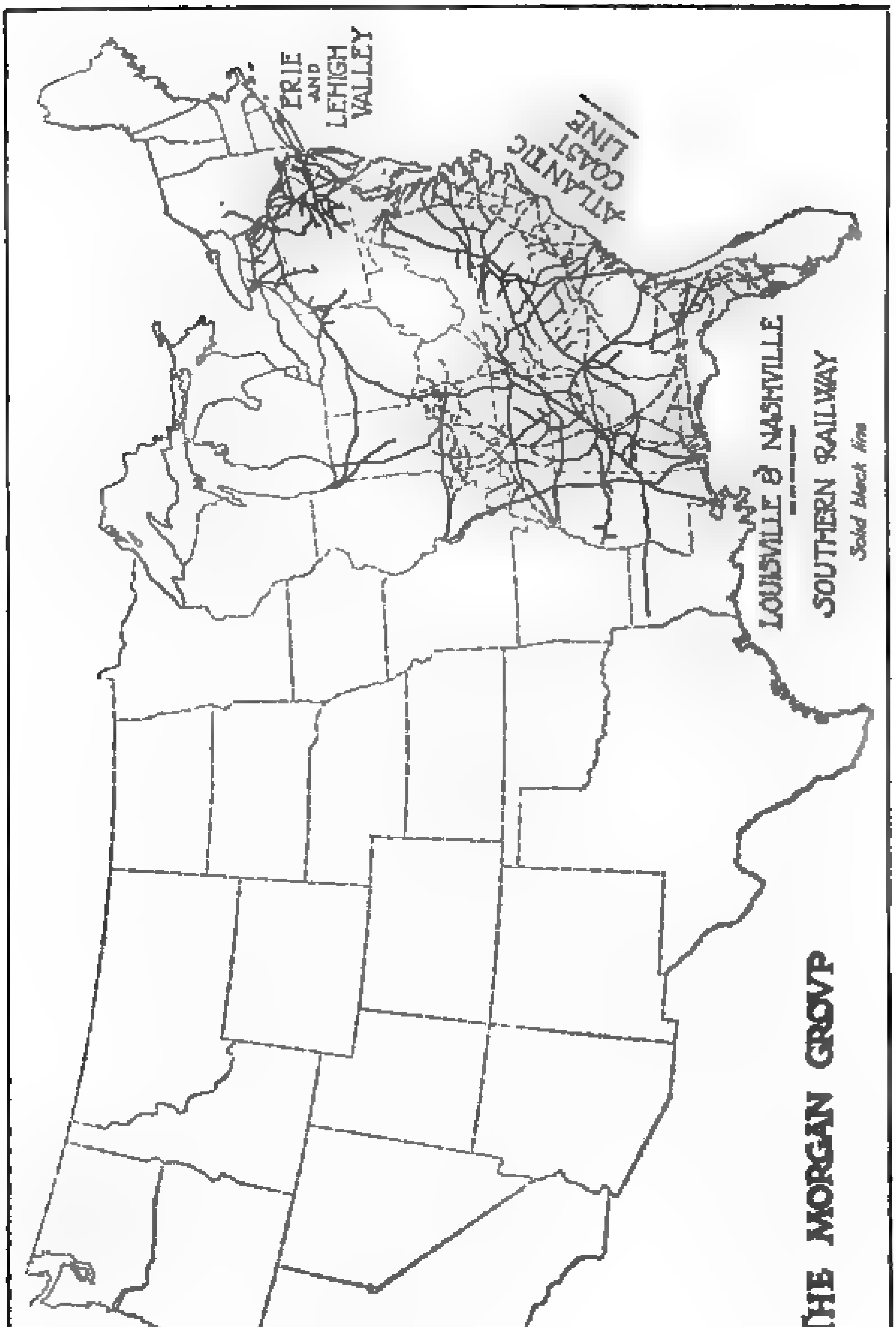
powerful railway pool in the United States.[1] But the Federal prohibition of pooling in 1887 caused it to be dissolved. There followed a long period of bitter competition, from which, however, there gradually emerged before 1890 a system comprising nearly 9,000 miles of line, known as the Richmond Terminal Company. Its only formidable competitor was the Louisville & Nashville with a mileage of less than 2,500. Bearing in mind, however, that there was a total of more than 50,000 miles of railway line in the entire territory at this time, it is evident that the small independent roads were still overwhelmingly in the majority. And the Richmond Terminal Company was poorly built, weakly and improperly co-ordinated and perilously financed. Its affairs drifted from bad to worse until in 1893 it was taken in hand by the banking house of J. P. Morgan & Co.[2] There then emerged, in the following year, the most important railroad in the region, known as the Southern Railway. Beginning with 4,600 miles of line, it grew steadily until in 1908 it had attained more than twice that size. As the accompanying map shows, this Southern system reaches every important point between New Orleans and Richmond, and as far up as the Ohio river. And what was of especial importance, it controlled lines running to the north, on both sides of the Appalachian mountain chain. Formerly it was the competition of these two distinct sets of lines, one seeking to supply the South from eastern centres and the other from the Middle West, which was the most formidable obstacle to stability of rates.[3]

The Southern Railway by no means enjoyed monopolistic power over rates prior to 1900. Its lines were paralleled by formidable competitors to the north, both east and west of the mountains. There were several roads paralleling the Atlantic seaboard; and, as affording connection with St. Louis and Chicago, there were two great companies, the Illinois Central and

[1] *Cf.* p. 584, *infra.*

[2] Its financial experience in detail at p. 381, *supra.*

[3] This is the kernel of the great Cincinnati Freight Bureau case; Ripley, Railroads: Rates and Regulation, index.



THE MORGAN GROUP

the Louisville & Nashville. Of these the former was mainly a trunk line direct to New Orleans. But the Louisville & Nashville, from its base at the Ohio river cities, radiated out all over the western half of these southeastern states. The broken lines on the map show its present extent. Without power to make enforcible traffic agreements, competition under such circumstances was bound to be keen. Moreover, this Louisville & Nashville system was prosperous, and was rapidly expanding toward the south and east. Its great opportunity arose in 1902 as the result of what at first threatened to be a calamity. The affair was somewhat complicated as we have already seen.[1] Suffice it here to state that, as a result of a speculative raid, control of the Louisville & Nashville was finally turned over to the most important railroad paralleling the eastern seaboard. The Atlantic Coast Line extended down from Richmond and reached inland as far as Augusta and Montgomery, its location being shown upon our map, also, by broken lines. The relation between the two companies, thus combined in 1902, may be compared with two arms, reaching down each side of the mountains, and touching one another about their southern end with extended finger tips. There is no direct connection between the two northern ends. These two railroads, when combined, covered most of the territory of the Southern system and competed with it at every strategic point. A few independent local lines still remained; but for all practical purposes the transportation business of the South was now in two powerful hands. The trunk line of the Illinois Central, closely paralleling the Mississippi, has since then been extended to the Atlantic seaboard through the acquisition of the Central of Georgia (map p. 500, *infra*); and the Atlanta, Birmingham & Atlantic has been constructed across the same field.[2] But entire harmony still seems to prevail.

The complex inter-relations of the two great systems, and their affiliations even with the other two, above-mentioned, are

[1] Pp. 144 and 218. *supra*. [2] P. 27, *supra*.

concisely set forth in the Report on Intercorporate Relations of 1908.

"The Southern Railway Company, as will be recalled, is jointly interested with the Louisville & Nashville Railroad Company in the Chicago, Indianapolis & Louisville Railway Company. This establishes a working alliance between the Southern and Atlantic Coast Line systems. But the relations between these systems are made still closer by the fact that the Southern Railway Company owns $550,000 of the stock of the Atlantic Coast Line Railroad Company; jointly with the Louisville & Nashville Railroad Company owns the Birmingham Southern Railroad Company; and jointly with the Atlantic Coast Line Railroad Company and the Central of Georgia Railway Company owns the Augusta & Summerville Railroad Company. Again, the Atlantic Coast Line Railroad Company, the Louisville & Nashville Railroad Company, and the Central of Georgia Railway Company jointly control the Western Railway of Alabama; and the Central of Georgia Railway Company and the Louisville & Nashville Railroad Company, directly and through the Georgia Railroad, own large interests in the Atlanta & West Point Railroad Company. The Atlantic Coast Line Railroad Company and the Seaboard Air Line Railway hold large interests in the Columbia, Newberry & Laurens Railroad Company. The joint ownership in the Richmond-Washington Company has already been described. Finally, it is of interest to observe that the majority of the stock of the Old Dominion Steamship Company is owned by the Norfolk & Western Railway Company, the Chesapeake & Ohio Railway Company, the Atlantic Coast Line Railroad Company, the Seaboard Air Line Railway, and the Southern Railway Company."

It is thus evident that since 1900 this entire southeastern quarter of the United States has been consolidated to a standstill.

CHAPTER XV

RAILROAD COMBINATION IN THE WEST

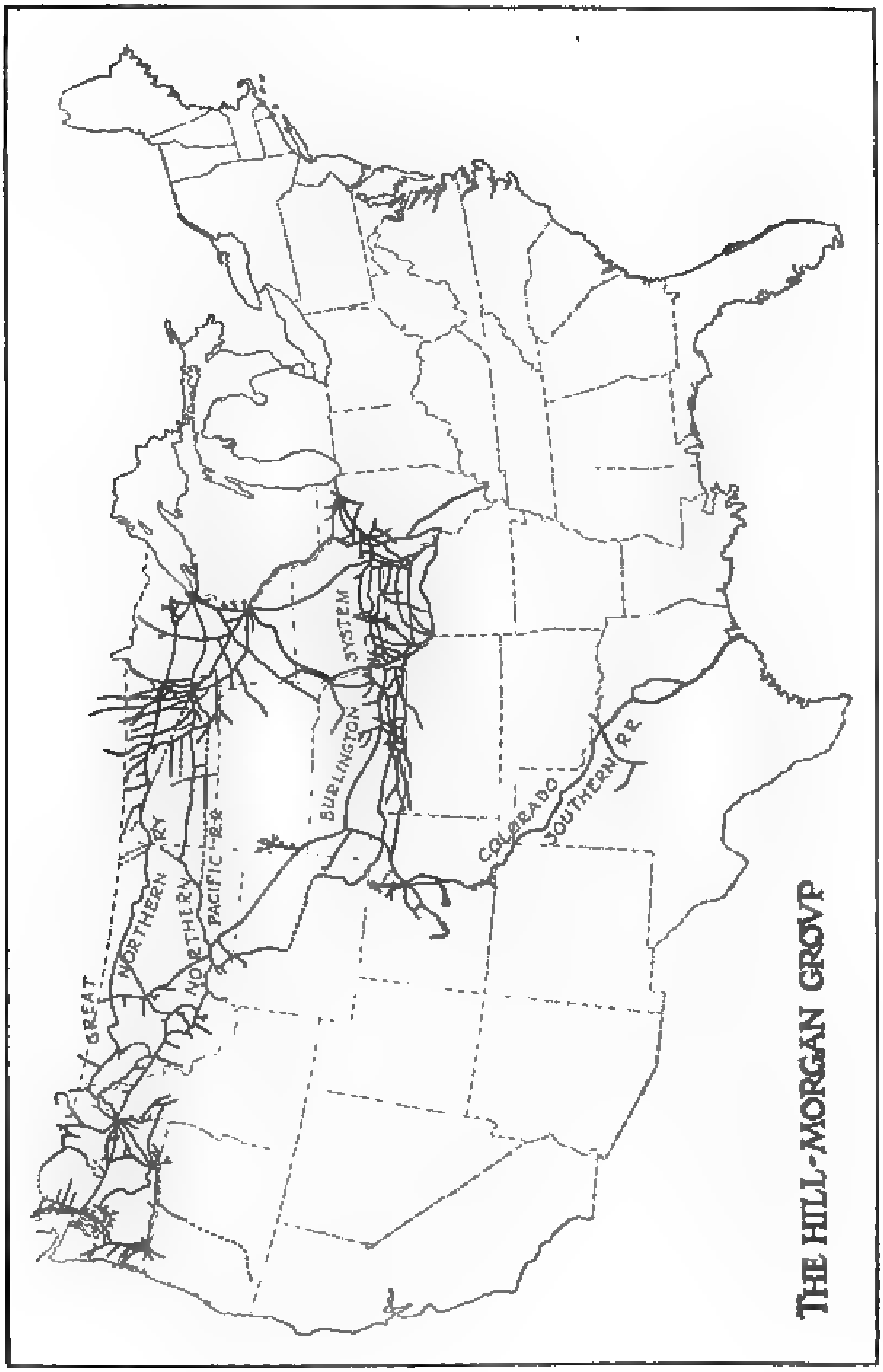
THE transcontinental railroads of the United States fall naturally into three more or less distinct groups. The Union Pacific and, since 1909, the Western Pacific run directly across to San Francisco. The southern group comprises the Atchison and Southern Pacific roads, both reaching the same terminal by way of southern California. [*Cf.* maps, pp. 477 and 500.] The third group includes the Northern Pacific, the Great Northern and, since 1909, the St. Paul, all three of these penetrating the Northwest to the coast at Seattle. Substantial monopoly among these transcontinental roads was built up by a series of events beginning about 1900. It was weak-

ened only in part by the opening in 1909 of the two independent railways above named. Up to this time these transcontinental lines, however, while geographically in three groups, were financially divided into only two. Until then, two great personalities, James J. Hill of the Great Northern, and E. H. Harriman of the Union Pacific, absolutely controlled the situation between them. Hill, to be sure, was supported by the house of J. P. Morgan; but he was evidently the real dominating railroad factor. The history of the decade is unique and momentous. It is a record of the personal achievements of these two men.[1]

The Northern Pacific railroad from St. Paul to the Pacific was opened as a through line in 1883. It was carried through only by the aid of heavy subsidies from the Federal government; and until the late '90s had a checkered financial career.[2] Closely paralleling it on the north, along the Canadian border, the Great Northern Railway, having the same terminal points, was put through without public assistance a few years later. Conservatively financed, it was successful from the outset, in striking contrast to its older rival which had been a speculative football for years. These two roads lived in comparative peace with one another for some twenty years; when, about the opening of the century, a combination of personal and economic motives led to a project for their combination. A powerful group of stockholders had attained an age when, contemplating retirement, they desired to perpetuate their joint control of the road. Important developments in the opening up of Oriental markets, with the need of guaranteeing traffic for steamship lines, made greater permanency of relationship desirable. For traffic agreements with Chicago con-

[1] The fugitive sources are very abundant. The Library of Congress has published a bibliography of the subject. But practically all the important details will be found in B. H. Meyer, History of the Northern Securities Case. *Bull. University of Wisconsin*, no. 142, July, 1906. The most important chapter is reprinted in Ripley, Railway Problems (rev. ed.), pp. 553–567.

[2] On its reorganization in the '90s, consult chapter XII, *supra*.



THE HILL-MORGAN GROVP

nections were always subject to change or abrogation. And undoubtedly, also, it was clear that the revival of prosperity after 1898 must be accompanied by a great increase of traffic in this undeveloped territory; so that large profits would accrue to both roads could rates be maintained or perhaps even raised all along the line.

The primary need for both companies was an independent entrance into Chicago; and it was plain that a single road would amply suffice for the two. From among several possibilities, the Burlington system was finally selected. For it not only afforded the necessary Chicago connection; but it also gridironed a rich and populous territory of its own. It tapped the great live-stock, coal and mineral areas of the Middle West as well. Negotiations for purchase were hastened by a sudden resolution of the rival Harriman or Union Pacific forces in 1900–'01 to obtain possession of it. For the Union Pacific, terminating at the Missouri river, also might make use of the Burlington in order to reach Chicago. The dominant stockholders of the Burlington were approached; and finally agreed to a sale of the property to the two northern roads as joint purchasers. The agreement assumed the familiar form used in the New York Central—Lake Shore and Louisville & Nashville-Atlantic Coast Line transactions. The Northern Pacific and Great Northern were each to receive one-half of the $108,000,000 of Burlington stock; and were to pay for it in joint long-time collateral trust bonds. About 97 per cent. of the stock was thus purchased, and deposited in trust as security for the new bonds. There were no cash requirements at all, it will be observed, for the passing of control.

The foregoing transaction was bitterly opposed by the Harriman-Union Pacific forces, who saw in it a menace to their plans for a monopoly of the transcontinental situation; they having already, as will soon appear,[1] endeavored to secure

[1] P. 503, *infra*.

a share in the Northern Pacific purchase. Consequently they set about an attempt at its control by bidding for stock in the open market. The stock market panic of May 9, 1901, was the result.[1] As prices soared in the competitive bidding, hosts of brokers sold Northern Pacific stock short, not being aware that all purchases were for actual delivery and not for mere speculation. A corner ensued, in the course of which for a brief period, Northern Pacific stock sold at $1,000 per share. The outcome is so admirably and concisely told by Prof. B. H. Meyer,[2] that it can best be quoted directly:

"During the very days when the Burlington transaction was being perfected, the men who had been refused what they regarded an equitable share in that purchase elaborated plans which were calculated to vanquish their enemies and elevate the Union Pacific interests to a position of supremacy in trans-continental traffic. These stirring events led a cosmopolitan editor to invent a parable of fishes in which the bass had swallowed the minnow, and the pike swallowed the bass. In this instance, however, the bass, armed with retirement fins, compelled the pike to spew him out.

"The total outstanding capital stock of the Northern Pacific was $155,000,000, of which $80,000,000 was common and $75,000,000 preferred. During April and early in May, 1901, the Union Pacific interests acquired $78,000,000 of this stock, — $41,000,000 preferred and $37,000,000 common — with the view of controlling the Northern Pacific railway, with its half interest in the Burlington system. Such a movement appears to have been anticipated. 'It was a common story at one time.' Individuals representing the Great Northern and Northern Pacific interests, becoming apprehensive, increased their holdings in the Northern Pacific by purchasing about $15,000,000 of common stock in the market. Short selling of Northern Pacific stock and the scramble to cover, when it was discovered that only a limited supply was to be had, drove the price of Northern Pacific common stock up to about $1,000 per share. This was the climax of a series of events which culminated in the stock-exchange crisis of May 9, 1901. 'The markets of the world were convulsed, the equilibrium of the financial world shaken, and many speculative interests in a critical condition.' On May 1, 1901, when the so-called 'raid' upon Northern Pacific stock became known, J. J. Hill and his associates, who had been in possession

[1] P. 200, *supra*.

[2] Now a member of the Interstate Commerce Commission. In *Bull. University of Wisconsin*, no. 142, 1906.

of large blocks of Northern Pacific stock from the time of the reorganization of the company, were holding from $18,000,000 to $20,000,000, par value, of common stock; and J. P. Morgan & Co. were holding some $7,000,000 or $8,000,000. Together, May 1, 1901, these individuals lacked the dramatic $15,000,000 of common stock, which, when they had acquired it, gave them a majority of some $3,000,000 par value, of the $80,000,000 of common stock, when the 'show down of hands' occurred after May 9. Although the Union Pacific interests represented by E. H. Harriman and Winslow S. Pearce, as trustees for the Oregon Short Line, held a majority of $1,000,000 of the total amount of stock, their majority lay in the preferred shares which could be retired on any 1st of January prior to 1917, — that is, before the present owners could get an opportunity of exercising the authority which was assumed to reside in them, and which would give them the coveted control. This is why the pike did not swallow the bass. To the country at large and to Wall Street these events appeared like a duel between giants, but one who appears to have been a leading participant in the duel, on the losing side, asserted that he never was in a contest, nor did he and his associates lose money.

"According to the by-laws of the Northern Pacific Company, the annual election of its board of directors by the stockholders occurs in October, and under the distribution of stock existing after May 9, 1901, the Union Pacific interests could have controlled this election, and thus prevented the retirement of the preferred stock on January 1, 1902, which would legislate them out of control. Both the preferred and the common stock could vote under the conditions existing on May 9, 1901. A postponement of the annual meeting from October till after January 1, 1902, was frequently thought of and advised by counsel. It could have been done. This potential power of retiring the Northern Pacific preferred stock before the same could be voted, residing in the Northern Pacific Board of Directors, appears to have generated a conciliatory attitude on the part of the representatives of Union Pacific interests, and negotiations for the purchase of such shares were successfully carried through by J. P. Morgan & Co. Direct testimony admitting this causal connection does not exist, but the admitted facts make it appear highly probable. To be sure, the retirement of the preferred stock had been thought of long before, and the right to do so on any 1st of January between 1896 and 1917 was expressly reserved; yet up to 1901, when this plan was finally consummated, no plan had been devised for the retirement of that stock. The interested parties agreed not to wait until October, but to act at once; in order to establish permanent peace and 'to show that there was no hostility.' In order to prevent the recurrence of such disorder, the Northern Securities Company was planned and soon after incorporated. Probably also an incentive toward the formation of this finance company, was the opportunity which it would afford to the Morgan-Hill

party to resell a part of their stock without losing control. For after the exchange of securities provided for, the Harriman party would hold less than a quarter of Northern Securities stock. A considerable lightening of the financial burden would therefore be feasible."

The Northern Securities Company, incorporated in November, 1901 under the laws of New Jersey, was a holding or finance company, pure and simple. It was in no sense to be concerned with operation; but was created in order to indissolubly bind the two great transcontinental roads together. The capitalization of $400,000,000 was intended to cover the market value of the shares of both roads and to constitute in itself so huge a total that there could be little hope of outside interests stealing control from the Hill-Morgan party. About 76 per cent. of the Northern Pacific's stock was taken over at $115 per share; and approximately 96 per cent. of the Great Northern at $180. But a special bonus appears to have been extorted by the Harriman party for its large holdings of Northern Pacific stock, — a premium which with other items played an important part in subsequent Union Pacific finance. In the meantime, so far as operation, rate-making and financing were concerned, it was apparent that an absolute monopoly had been created. Three formerly independent roads were now firmly united; and many economies, not formerly practicable, were put into effect. Traffic between the two transcontinental lines seems to have been divided on a basis proportionate to the freight received by the Burlington from each, unless otherwise routed by special agreement. But whatever friendly rivalry there might have been in service, all actual competition in rates, so far as the public was concerned, was at an end.

The later history of the Northern Securities Company is largely legal; but may best be outlined in this place in order to round out the record. State and Federal authority was promptly invoked to declare it an illegal monopoly in restraint of trade. The United States Supreme Court in March, 1904,

in a momentous decision did, in fact, so declare it in violation of the Sherman Anti-Trust law; although by a bare majority opinion.[1] It condemned the holding company device; and forbade the company either to vote its railway stocks held, or to collect dividends thereon. The response of the company was prompt. It reduced its capital stock by 99 per cent. and took steps to distribute its holdings among the original owners. But at this point an interesting controversy arose, which required a second decision of the Supreme Court in 1905 for its settlement. For the distribution of assets reopened the old contest for control between the Harriman-Union Pacific and the Morgan-Hill parties. The latter, controlling the Northern Securities Company, naturally desired to perpetuate their ascendency. This they proceeded to do by offering to divide the Northern Securities Company's stocks of both Northern Pacific and Great Northern proportionately among all their own stockholders. For each share of holding company stock, there was to be given $39.27 in Northern Pacific stock and $30.17 in Great Northern scrip. To this the Harriman party vigorously objected; because, as will be recalled, they once actually held a majority of the total capital stock, common and preferred, of the Northern Pacific road. They had failed of control only because of a slight minority of the common stock, which had power to retire the preferred shares. Could they recover the shares actually turned in to the holding company, now that the retirement period for the preferred stock had passed, the Northern Pacific would at last be theirs. To make a long story short, the Supreme Court decided against this contention.[2] Distribution took place; and the Hill-Morgan party remained in control of both roads and consequently also of the Burlington system as well. The only assets of the Northern Securities Company, since reduction of its capital stock, have been certain shares of the Burlington road and of the Crow's Neck Pass Coal Company.

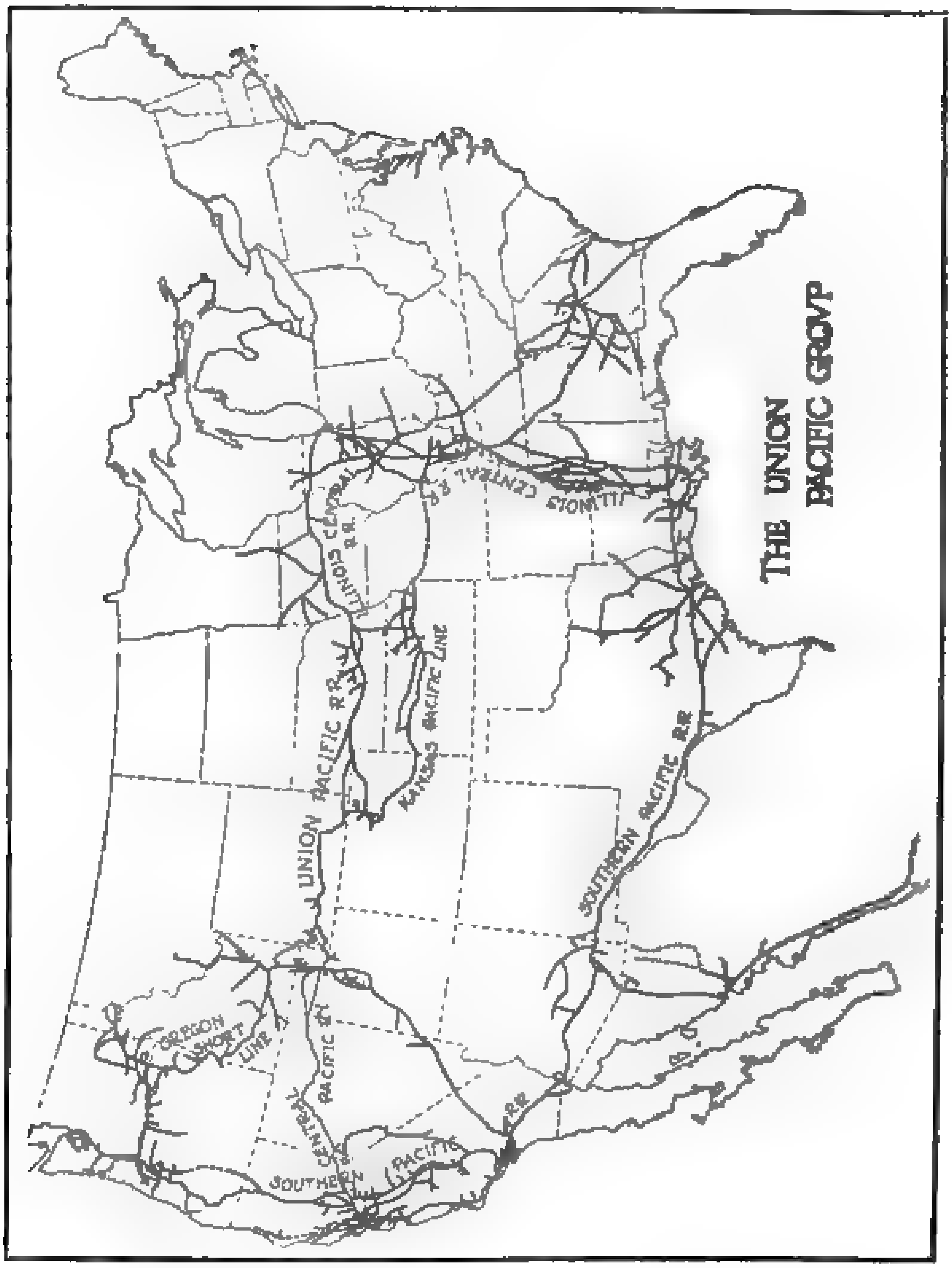
[1] *Cf.* p. 555, *infra*. [2] 228 U. S., 482.

Since the legal dissolution of the northern transcontinental monopoly in 1905, no outward change, so far as the public is concerned, is apparent. Harmony in rate policy has been unbroken; and in all subsequent changes of rates, all roads have acted practically as a unit. This is undoubtedly because substantial blocks of the stocks of both main lines are still lodged in the same hands. At all events, everything except competition in facilities has ceased. And both roads continue in control of one-half each of the Burlington system. Nor has the latter ceased to expand, in the interest of its joint owners. The most important event was its acquisition in 1908 of the Colorado & Southern road, which afforded, as our map shows, an independent outlet for the affiliated systems upon the Gulf of Mexico at Galveston. The problem of meeting the competition of the Panama Canal in due time was thus met. And the addition of a mileage of 2,500, brought the size of the entire transportation group to the formidable total in 1909 of 25,000 miles of line.

The phenomenal growth of the Union Pacific system within the short period from its sale under foreclosure in 1897 to the death of E. H. Harriman in 1909 has perhaps no parallel in transportation history.[1] Omitting all mileage of other roads in part owned through minority stock holdings, the Union Pacific system during this time rose from 1,800 to more than 23,000 miles of line. The total capitalization — stock and bonds — in 1898 was $226,000,000. Ten years later it was only $518,000,000. And yet it threatened to dominate the management of more than 25,000 miles of line outside its own

[1] On the Union Pacific the following general references are best: 12 I. C. C. Rep., 319; *Quarterly Journal of Economics*, vol. XXI, 1907, pp. 569–612; *idem*, vol. XXVII, 1913, pp. 295–328; *idem*, vol. XXVIII, 1914, pp. 772–794; also the complete record in the Union Pacific-Southern Pacific Dissolution case, p. 561, *infra*. *McClure's Magazine*, October, 1909, pp. 641–659, and January, 1911, pp. 334–348, gives a popular account. The Boston *Transcript*, Sept. 10, 1909, also reviews Harriman's career comprehensively.

system, capitalized for more than $2,600,000,000, including the entire Vanderbilt group and comprising several through



THE UNION PACIFIC GROUP

lines from the Atlantic to the Pacific. Given the Harriman financial formula, soon to be described, skilfully applied to this end, and it would be difficult to set limits to the consolida-

tion which might have ensued, had not the guiding hand either been removed by death or restrained by law. The chapter is indeed one of the most remarkable and significant in our industrial history.

This brief chronicle naturally divides itself into three distinct periods. Internal improvements and financial rehabilitation during the first few years were most important. The five years following 1901 were largely concerned with the Northern Securities Company struggle and the strengthening of the transcontinental monopoly. And the period subsequent to 1906 witnessed the great expansion through investment in stocks of other railroads all over the United States. These three periods are quite distinct in character, although following one another logically. After the death of Mr. Harriman in 1909, the company most wisely reverted to a more normal course of development, not meriting further special consideration.

The claim of the United States in 1897 against the old Union Pacific Railroad, for aid in its construction and for unpaid interest, amounted to \$58,400,000.[1] The property was in a pitiable plight. All its feeders, as well as its through connection to the Pacific, had been cut off during the four years of depression and receivership since 1893. It had thus lost 5,800 miles of line. Less than a quarter of its main stem mileage was even graded and ballasted. Everything was in a state of extreme dilapidation. The opportunity for development, nevertheless, was so plain to Harriman, that he raised enough cash to bid in the road under foreclosure proceedings for the full face of the government's claim. The history during the next two years is merely one of remarkable prosperity, utilized to the full in upbuilding the company's credit and in regaining possession of its lost feeders and connections. The most important re-acquisition was the Oregon Short Line, giving an outlet to the Northwest. This was acquired in

[1] A detailed account of the foreclosure proceedings is in *Quarterly Journal of Economics*, vol. XIII, 1899, pp. 427–444.

1899 by an exchange of stock; and has since been distinct only as a fiscal unit, serving as a sort of treasury agent for the deposit of purchased securities. Other branches were speedily taken back; so that by 1901 the system had grown from 1,850 to 5,628 miles of line.

At the same time these early years were devoted to an entire rebuilding of the road from end to end. Fortune favored the enterprise from the start. An unusual rainfall in the semi-arid belt brought heavy crops and prosperity at a crucial time. For this all occurred, it should be noted, before the days of dry farming and extensive irrigation in the Far West. The annexation of the Philippine Islands also largely stimulated transcontinental and Oriental business. Gross earnings increased rapidly. Dividends began. And substantial surpluses over and above these were turned back into the property for every form of permanent improvement, which would reduce costs of operation. The construction of the Lucin cut-off at the Great Salt Lake was a first-rate achievement. The initial appropriation for this great work was $10,000,000; but it shortened the line from 147 to 103 miles, saved 1,500 feet vertically of grade, and cut out about ten complete circles of curvature. The mere operating savings for the first year on this account were nearly one million dollars. Double tracks were laid, solid embankments took the place of trestles and curves were eliminated wherever possible all along the line. The result was a heavy decline in the operating ratio.[1] This was 62 per cent. in 1896. Within six years operating expenses were below 53 per cent. of revenue from operation. Train loads rapidly increased, so that the greatly expanding business was yielding more than proportionate net returns. Within three years, both gross and net revenues more than doubled. By 1901, therefore, the company was in prime financial condition, with strong credit and unsurpassed banking connections.

[1] P. 22, *supra*, and Appendix II, *infra*.

Two distinct events opened the second five-year period of Union Pacific finance down to 1906. These were the acquisition of the Southern Pacific Railroad; and the bitter struggle with the Morgan-Hill party for the control of the Northern Pacific. But the guiding principle of the whole five years was really the creation of an absolute monopoly of all transcontinental business. Leaving aside the northern lines, it may fairly be said that California territory up to 1901 was served by at least five distinct routes or "lanes" of traffic.[1] These had evolved gradually during a half-century; and some of them at least were openly in competition with one another. Measured by volume of traffic the "Sunset Route," consisting of steamship lines from Atlantic seaports to New Orleans owned by and operating with the Southern Pacific Railroad, was by far the most important. Nearly three-fourths of the transcontinental business used to move over this line. Next in importance was the Union Pacific, which was the short line; but which was forced to depend upon the Southern Pacific for its last link from Ogden, Utah, west to the sea. This same connection, known as the Central Pacific, was also essential to the third transcontinental line over the Gould roads, as will shortly appear. The links in this chain were the Missouri Pacific and its controlled road, the Denver & Rio Grande. But these Gould lines, like the Union Pacific, had no independent western outlet. Not so, the fourth transcontinental route, the Atchison system. This alone had rails into both Chicago and San Francisco. And finally, there was the Panama route, made up of two steamship companies with a short connecting link of rail over the isthmus. Having completed its internal reconstruction, the second great task before the Union Pacific was to eliminate competition between as many of these lines as possible. Contemporaneously, also, as a part of this same plan, there was the unsuccessful struggle for control of the northern lines.[2] This episode was of more importance in the

[1] Maps on pp. 493 and 500, *supra*. [2] Details at p. 494, *supra*.

later financial development of the Union Pacific, as will appear in due time. It is possible that failure to control in this direction, only whetted the ambition to put an end to competition between the remaining lines.

The first competing road to be absorbed was the Southern Pacific. This was bought outright in 1901, by the purchase of $75,000,000 par value of stock, originally owned by the Crocker, Stanford and Huntington estates. In the following year enough more stock was bought to give absolute control through a majority of its capital stock. This transaction was financed by a large issue of convertible bonds of the Union Pacific Company.[1] Thus over 9,500 miles of line was added to the system. A very extensive betterment policy for the newly acquired road was at once adopted. Within four years $33,000,000 was expended for this purpose alone.[2] The line was rebuilt from end to end; and in the meantime prospered greatly from an enormous growth of business. But to all intents and purposes, competition with the Union Pacific was at an end.

Next in order, of combination during the years 1902–'04, the Atchison was taken into partnership. This road had lately become aggressive, and in 1902 began to extend its lines both in Arizona and into Northern California. A bitter struggle ensued, ending in 1904 with a heavy purchase of Atchison stock and the election of Union Pacific men to its directorate. Several new lines were thereafter jointly owned; the highly important citrus fruit business was pooled;[3] and rivalry from this source was at an end. The Atchison stock was speedily resold; but temporary ownership served its purpose. Then came the elimination of the Gould lines, which, as has been said, only came as far west as Ogden, Utah. The refusal of the Central Pacific longer to join in through rates and shipments after the purchase of the Southern Pacific, was the act which finally compelled this rival system to enter upon the

[1] P. 158, *supra*. [2] *Cf.* p. 217, *supra*. [3] P. 596, *infra*.

construction of a new line, known as the Western Pacific. This is described in connection with our account of the Gould system. Until it was opened, the Denver & Rio Grande route shared not at all in the great growth of California business during the decade. It was practically eliminated from competition. Last of all, there remained the Panama route to be dealt with. This was controlled through ownership of the Pacific Mail steamers. But a policy of discouragement of shipments by this route seems to have been adopted. In 1907 less than one-third of the tonnage of 1901 was carried. It was even said that Panama Canal supplies for a time came from California largely by way of New York; instead of by the direct route as before.[1] In order to round out this chronicle, it may also be added that a one-half interest in a new line from Salt Lake City to Los Angeles was in 1904 the outcome of a protracted struggle to prevent its construction at all. The monopoly of transcontinental business seems to have been pretty effectually obtained.

Operating efficiency having been brought to the highest point of perfection, as well in respect of direct operating expenses as of economic routing of traffic, and freight rates west-bound having also been largely increased since 1897, as could now readily be done under the conditions of monopoly just described; an enormously enhanced revenue was the necessary result. Gross receipts from operation rose from $19,000,000 at the start to $76,308,000 in 1907; while net revenue increased even more rapidly. Nevertheless, with the growing share capital, much of it consisting of bonds now converted into capital stock, these expanding profits might easily have been distributed as dividends. But the unforeseen outcome of the Northern Securities affair in 1906, rendered possible a more

[1] Much of this data, it may be added, is to be found in the evidence taken on the subject by the Interstate Commerce Commission in 1907; and in connection with the prosecution of the Federal suit against the Union Pacific company in the years thereafter described in Chapter XVII, *infra*.

ambitious programme of expansion; that one, in fact, which characterizes the third period in the company's history, to which we shall soon turn. But meanwhile it remains to trace certain fiscal results of the struggle for control of the Northern Pacific road, heretofore described in connection with the Hill-Morgan group.

The 781,080 shares of Northern Pacific stock, bought in the open market by Harriman in the spring of 1901, were financed by means of the issue of $100,000,000 of convertible bonds issued by the Union Pacific company. About $40,000,000 of these were used for the acquisition of the Southern Pacific. The balance, together with heavy loans from the New York banks, provided the $79,459,000 which this investment seems to have cost originally. This sum was reduced somewhat later by sale of Northern Pacific preferred shares, to about $73,159,000; and then increased again by subsequent subscription to new Great Northern shares; so that the final net cost of its Northern Pacific venture was $76,900,000. These securities, however, during the speculative boom of 1906,[1] rose to such extravagant quotations that the rate of return, measured by dividends paid, was less than 3 per cent. To sell the Northern Pacific and Great Northern shares which were returned to them in place of their original Northern Pacific stock, on the distribution of assets of the Northern Securities Company, was obviously a plain business proposition. This was promptly done. And the Union Pacific realized in cash, and held for shares still unsold, the sum of about $159,848,000. The profit in hand and on paper of this extraordinary venture was therefore approximately $82,943,000, or 113 per cent. on the cost. This outcome accounts for the policy of the third period in the company's history, to which we may now turn.

Up to 1906 the Union Pacific seems not to have invested largely in other independent companies except the Northern

[1] Chaps. V and VI, *supra*.

Pacific. Temporarily, to be sure, it had picked up several hundred thousand shares of Atchison in 1904; and in order to secure an independent entrance into Chicago, it had bought Chicago & Alton shares in the following year.[1] In the main it had attended strictly to trans-Mississippi affairs. But now the company's treasury was literally bursting with free assets. Its revenues from operation were enormous; its repayments of advances to subsidiary companies, like the Southern Pacific, were steadily increasing; these companies, likewise, were paying larger dividends; and, on top of it all, came the huge profits of the Northern Securities venture. The Union Pacific was apparently loaning in 1906 some $34,000,000 in Wall Street. But now came a sudden change of policy. When the Interstate Commerce Commission investigated the subject a year later, the following investments in roads all over the country had been made within eight months from July 1, 1906, at a cost of over $130,000,000.[2]

Cost of Union Pacific-Oregon Short Line Investments[3]

Atchison, Topeka & Santa Fé, preferred stock	$10,395,000
Baltimore & Ohio, preferred stock	6,665,920
Baltimore & Ohio, common stock	38,801,040
Chicago, Milwaukee & St. Paul, common stock	5,997,750
Chicago & Northwestern, common stock	5,303,673
Fresno City Railway stock	106,410
Illinois Central stock	41,442,028
New York Central, etc., stock	19,634,324
St. Joseph & Grand Island stock	2,022,540
	$130,368,688

By this good stroke of business the Union Pacific's income from investments was enhanced by more than 50 per cent. Such income had in fact risen from less than $3,000,000 in 1900 to $6,497,000 in 1905. Now it jumped to $10,330,000 — a sum greater than all the Union Pacific dividend disbursement in the preceding year. The time had come for freer distribution. But, unfortunately, the manner

[1] P. 265, *supra*. [2] 12 I. C. C. Rep., 20. [3] Minor items omitted.

in which this change was announced in August, 1906, led to grave charges of bad faith against the management. The matter really belongs to the study of speculation in railroad securities, and is described elsewhere under that heading.[1] Suffice it to say that the announcement of an increase in the dividend rate to 10 per cent. annually, — six to be paid from operation and the balance from outside investments, — was delayed for two full days after being voted by the board of directors. It was a time of extraordinary speculative activity. The stock market was at the boiling point. And the opportunity afforded to insiders and their friends to make use of this privileged information was too valuable to suppose for a moment that it failed to be utilized. But leaving this question aside, the Union Pacific company had now reached a point where it could completely abandon operation as a railroad and still have sufficient income from investments to pay all fixed charges and the customary four per cent. dividend on its preferred stock.

The aggregate cost of these securities purchased within a few months was, as we have seen, over $130,000,000. As a reinvestment of surplus funds the list speaks for itself. The next question is as to their strategic importance for purposes of transportation. Absolute majority control of none of these properties was secured. Less than one-third of Illinois Central; one-fifth of Baltimore & Ohio; only about 8 per cent. of New York Central, with perhaps as much more in friendly individual hands; and even smaller percentages of the share capital of the granger roads, — was all that was held. But there can be no doubt that such substantial fractions could exercise a powerful influence upon the traffic policy of the properties concerned. And considered in their entirety, they made up a net-work of lines reaching every part of the United States. Most directly valuable, probably, was the Illinois Central, as giving both the Southern Pacific at New Orleans

[1] P. 209, *supra*.

and the Union Pacific at the Missouri river, direct access to Chicago. And with the acquisition of the Central of Georgia in 1907, as the map on p. 500 shows, a through line from the south Atlantic ports to the West was afforded. The important coal and iron and cotton manufacturing districts of the South were given their first through routing to important inland and Oriental markets over a single system. And of course, contrariwise, the Illinois Central gave opportunity for participation in the large grain export business through the Gulf ports;[1] as well as ready access to the new trade routes to be opened up by the Panama Canal. Incidentally, it may be noted that the distance to Chicago from the Atlantic seaboard was, by comparison with the northern trunk lines, shortened by about one-sixth by this new southeastern through trade route.

The Union Pacific now also enjoyed part control of two great Atlantic trunk lines. The New York Central with its trans-Mississippi extension, the Chicago & Northwestern, had long made up with the Union Pacific the shortest and probably the best ocean-to-ocean line. And the Baltimore & Ohio shares, being one-half of the Pennsylvania's former holdings,[2] gave access to the remaining North Atlantic seaports; as well as amounting, in connection with powerful joint directors in the Union Pacific and Pennsylvania boards, to a sort of partnership with this most powerful company. As for the St. Paul road, was that not an important rival in a rich western territory? And even more important, was it not at this very time, announcing a Pacific coast extension which should give entry to the North Pacific ports, served by the rival Morgan-Hill properties? Add to all this vast net-work, the important extensions of the Southern Pacific in northwest Mexico; the participation of Harriman in 1908 in the affairs of the Wheeling & Lake Erie, and even of the old Erie trunk line as well,[3] to say nothing of activities in the great New York life insur-

[1] *Cf.* our Railroads: Rates and Regulation, p. 437.
[2] P. 481, *supra*. [3] P. 169, *supra*.

ance companies; and it appears as if a dream of universal dominion were indeed about to come true. The supposition of Justice Brewer in the Northern Securities decision, of a multiplication of powers of control, by the expedient of intercorporate investment to the point of final amalgamation of all the railroads in the Union States in a single group, was made to appear even possible.[2] But the Napoleonic plans were halted in 1909 by the hand of death. The Union Pacific company, in safer because less all-ambitious management, returned more nearly to the status of a transportation company. Furthermore, an aroused public opinion had been moved to institute over the railways a real system of Federal publicity and control, which should render a repetition of these exploits impossible in future. In fact, it was probably the extraordinary career of this individual, Harriman, which largely contributed to the final success of the government in the protracted struggle over regulation of the carriers by public authority.[1] A unique chapter in our industrial history was abruptly closed.

The subsequent history of the Union Pacific may be briefly told. It promptly retired from Wall Street. And a policy of concentration of investment in roads physically allied to the parent company was inaugurated. More Illinois Central stock was purchased. On the other hand, the legally doubtful policy of investment in even remotely competing transcontinental roads was abandoned. The St. Paul and Atchison stocks were wisely sold. But those which strengthened direct through connections to the East, as in the Vanderbilt or Baltimore & Ohio systems, continued to be held. Two matters of primary importance were left unsettled at the time of Harriman's death. Some mode of distributing the great surplus, consisting of stocks of other transportation companies, had to be found. This was necessary in order to allay the popular distrust against a continuance of the ten per cent. dividend

[1] Outlined in Railroads: Rates and Regulation, chap. XV, *et seq.*
[2] *Cf.* colloquy in *idem*, p. 491.

rate, even although this were manifestly compounded of 6 per cent. from operation and 4 per cent. from profitable outside investments. The second difficulty consisted of the vulnerability of the intercorporate relationships between the Union Pacific and its subsidiary roads under the anti-monopolistic provisions of the Sherman Act. The company actually seemed, in a way, to be endangered by reason of its extraordinary good fortune in the past. Yet the highly involved intercorporate relationships of the system rendered any segregation or dissolution plan extremely difficult. Many of the securities in the treasury were not free assets; but, as in the case of Southern Pacific stock, served as collateral for bonds issued by the Oregon Short Line. Nor was this all. For the conflicting rights of preferred and common shareholders, to say nothing of bondholders armed with conversion privileges, promised to block the way to a peaceful solution. The clever way in which these embarrassments were at last disposed of, largely in connection with the Union-Southern Pacific dissolution by order of the Supreme Court of the United States, will be related in a subsequent chapter.

Reviewing this remarkable history, it appears that the cardinal principles of Harriman finance were five: bold borrowing; powerful and concentrated financial control; high operating efficiency; monopolistic rates for service; and corporate stock speculation. As for the first of these, a most daring use of credit was characteristic from the first. To borrow freely at low rates in order to devote the funds to more productive use is of course good business. But the risk incident to heavy mortgage indebtedness, based upon the possible growth of earnings in future, is often a powerful deterrent. Harriman corporations, however, never hesitated to borrow. The Chicago & Alton financing is a good, or rather an infamous, example of this.[1] The Union Pacific borrowings were at all times heavy. Twice at least within this short period of twelve

[1] P. 262, *supra*.

years, mortgage loans of $100,000,000 were authorized; the first in 1901 to acquire the Southern Pacific and to fight for the Northern Pacific; and the second through the Oregon Short Line in 1905 "for other corporate purposes." Nor was there hesitancy in contracting the heaviest short-time loans, carried as floating debt. A good part of the $80,000,000 required for the Northern Pacific struggle was thus borrowed. In 1901 the Union Pacific increased its floating debt by $30,000,000; and its loan account for several years thereafter was almost as large.

Surveyed broadly, the extraordinary financial status of the Union Pacific was due quite as much to borrowing in order to purchase the stocks of other roads, as to borrowing for the benefit of the Union Pacific property itself. Practically everything hinges upon that first great loan of $100,000,000 in 1901, the entire proceeds of which went to the acquisition of Southern and Northern Pacific stocks. Of course it was essential that these heavy loans should be contracted at the lowest possible interest rates. Years of Harriman experience with the Illinois Central had inculcated this principle. Sound credit was the first essential. But novelty lay in the successful appeal to the speculatively inclined capitalist. Plain bonds in Harriman finance were relatively scarce. These large mortgages were either convertible into Union Pacific stock on favorable terms; or else contained "participating" interest in future profits, as of the Oregon Short Line, in case its Northern Securities venture should prove highly profitable.[1] Remarkably clever appeal to the speculatively inclined investing class was an essential part of the general scheme. It should, however, be added, that ultimately the outcome of these heavy issues of low-rate convertible bonds was highly favorable to the companies concerned. For as the road prospered, the bonds were rapidly converted into stock; thereby freeing the line from an overload of mortgage debt and strengthening greatly its credit in case of future borrowings. Without

[1] P. 164, *supra.*

a positive genius for corporate finance, the Union Pacific's tangled intercorporate accounts could never have been blessed with so favorable an ultimate issue.

Safeguarding a financial base of supplies was a second essential factor in Harriman success. The most powerful banking support and personal alliances obtainable were cultivated, in and out of season.[1] The significance of this appears most strongly by contrast with the financing of the Gould system. This came to grief in some considerable measure through the attempt to keep transportation and banking operations entirely distinct. The personal side of Union Pacific affairs is too complicated to follow in detail. It began in 1877 with partnership in the powerful banking house of Kuhn, Loeb & Co., and affiliation with the National City Bank, the largest institution of its kind in America. To these was added after 1902, personal alliance with two of the wealthiest Standard Oil directors and with powerful leaders in the United States Steel Corporation. These last seem to have come into closer alliance in connection with the upheavals in the great New York life insurance companies in 1905. All were directors of the New York Mutual Company and were deeply concerned in the general fracas which culminated in Harriman's withdrawal from the Equitable Life Assurance Company, as well as in finally securing control of the Illinois Central. The great idle funds of the insurance companies were most serviceable as participants in the wholesale borrowings of the Union Pacific company.[2] And then in addition to the members of these inside groups, the active interest of a large number of very wealthy New York families was sedulously cultivated. The result was an almost unequalled financial and personal backing.

Fortunately the record in the Federal investigation of 1906–'07, enables us to follow the personal participation of these various individuals, including Mr. Harriman, in the

[1] Pp. 425 and 545, *supra*, on interlocking directorates, etc.

[2] P. 138, *supra*.

ownership of the various roads concerned. And the most surprising feature is the extremely small percentage of ownership which accompanied their control. This personal ownership may be purely individual, pooled jointly, or it merely may be syndicated through banking connections. But all of these forms of ownership together amounted in September, 1900, to only 0.88 per cent. of the share capital of the Union Pacific. This proportion rose to 3.96 per cent. in 1901; to 8.78 per cent. in 1902; to 17.31 per cent. in 1903; to 21.67 per cent. in 1905; and culminated in 1906 at 23.38 per cent. Thus when the first great loan of $100,000,000 was contracted, less than four per cent. of Union Pacific stock, and only 0.15 per cent. of the Southern Pacific shares, was concentratedly owned. Of course, with control of the parent company, which in turn absolutely controlled the subsidiary ones, these personal holdings outside the Union Pacific were of less importance. But occasionally, as in the temporary control of the Atchison in 1905, the outside ownership of 7½ per cent. of its stock, powerfully reinforced the Union Pacific company itself as against other rivals in the field.

Of the remaining essential features of the Harriman financial plan, both the genius for scientific operation and the set purpose to create an absolute monopoly of transcontinental business have already been discussed. The fact that for years the expenditures annually for maintenance of way were often 50 per cent. greater per mile than for other properties in the same territory, is in itself eloquent testimony to the thoroughness of the physical side of the work. It only remains to treat of the final and in some respects the most critical feature of the Harriman administration; namely, its highly speculative stock market character. Throughout the entire period under review the Union Pacific railroad was, as has elsewhere been shown in detail,[1] the very pith and marrow of the corporate and individual speculation of the time. Its financial

[1] P. 201, *supra*.

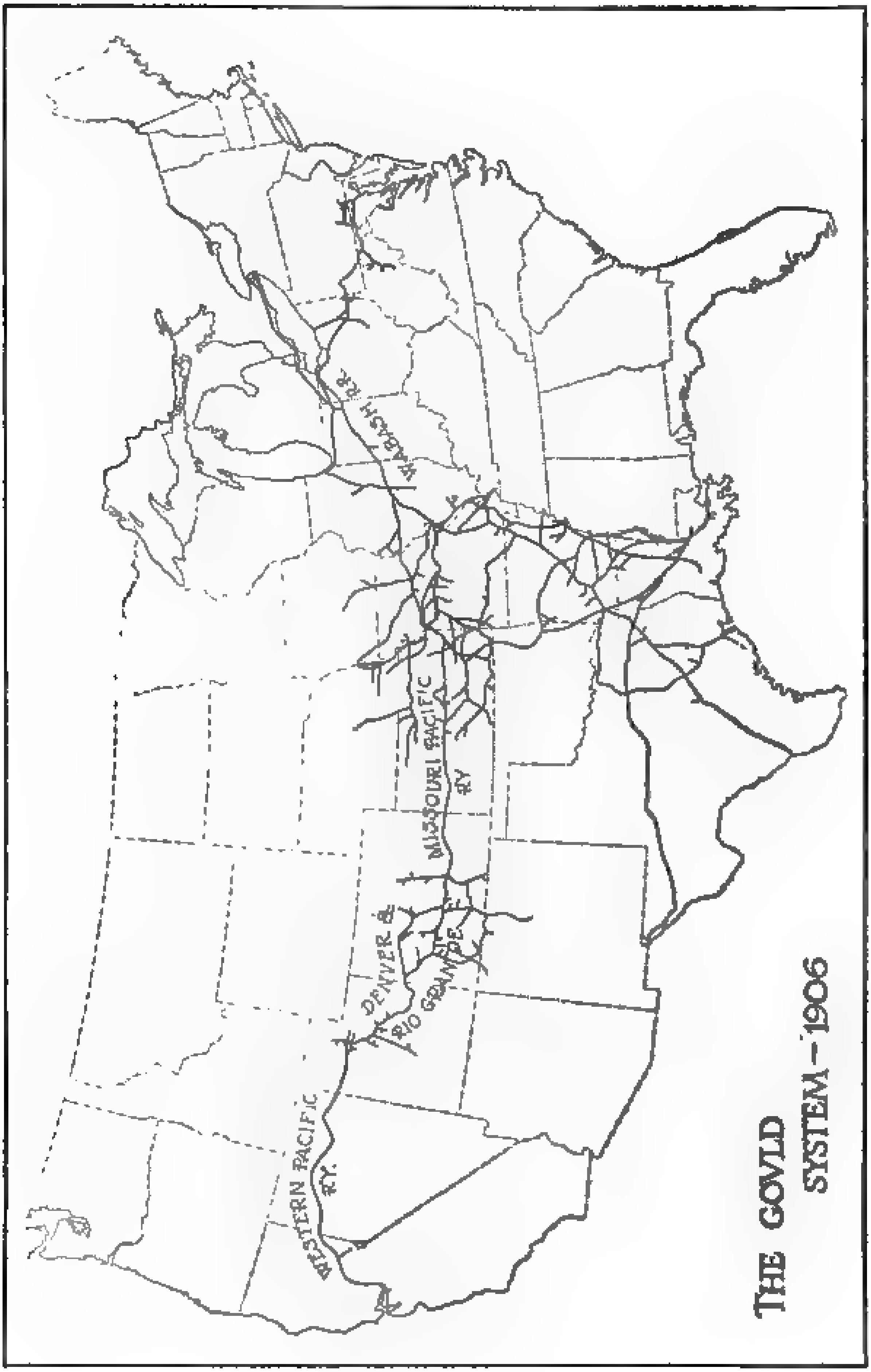
operations were always calculated rather with an eye to the Wall Street situation than to the welfare of the general body of stockholders. And rigidly scrutinized, the whole chapter of investment in other companies, except perhaps the Southern Pacific, is merely one of corporate speculation. The original $100,000,000 loan of 1901 and many of the succeeding mortgages, were largely devoted to investment in other roads. Money, in short, was borrowed on mortgage in order to buy shares in Wall Street. Moreover, when the shares were sold, as they happened by good luck to be at a great profit in the Northern Securities affair, the receipts from sales, instead of being devoted to cancellation of the original debt, were at once reinvested elsewhere. And even more was then borrowed, both on short-time notes and by mortgages of subsidiary companies, in order to carry the operations yet farther. It was a real case of pyramiding profits. Nor does it alter the situation, that much of the indebtedness created was apparently cancelled in due season through conversion of the mortgage bonds into capital stock. Suppose the first stock market plunge in Northern Pacific had resulted in loss instead of profit; as in fact on paper, the purchases of 1906 at inflated prices turned out for a time to be. Had the company been forced to sell these in 1907, there would have been a loss of about $50,000,000. The liability would have been none the less because to its own shareholders, instead of to bondholders outside. The original stockholders would then have suffered by just the amount of the loss. The fact remains that many of these operations were entirely foreign to the business of transportation. And enormous risks were assumed with funds belonging to an unknowing body of stockholders, — innocent as well as unknowing necessarily because profound secrecy and a general air of mystery always surrounded Union Pacific financial operations. The published statements, even, did not help to dispel this mystery; as witness the report of 1910, with its sudden disclosure of unsuspected indebtedness of the Oregon Short

Line to the Union Pacific of $71,600,000. These speculative plunges of the Union Pacific might, of course, have been made on margin, as the Reading acquired the Boston & Maine or as the Pearson-Farquhar syndicate in 1909–'10 endeavored to piece together a new transcontinental system. But the Union Pacific operations succeeded, as in fact either of these others might have done under similar favoring circumstances, had they occurred in a long-continued period of rising stock market prices. That was the only real difference. For all alike were based upon borrowed money. At all events the prompt return to safer, if less alluring, paths of corporate finance since 1909, could not but be matter for congratulation.

The so-called Gould system of railroads,[1] after 1901 reached a maximum length within five years of about 19,000 miles of line, stretching almost from ocean to ocean, only to be as rapidly dismembered after the panic of 1907. The nucleus was formed by the properties, mainly reaching southwest from St. Louis as far as the Mexican boundary, left by Jay Gould at his death in 1892. The principal one, destined to form the parent concern in the new system, was the Missouri Pacific. Jay Gould had in 1891 entered into a compact with the Southern Pacific for a division of the field in Texas by which the latter was to confine its activities to the western half of the state. The eastern half, together with territory up to St. Louis and Kansas City, was occupied by five separate roads all controlled by the Gould family.[2] Besides the Missouri Pacific, which extended west to Colorado, the Iron Mountain road and the St. Louis Southwestern lay close along the Mississippi; while the Texas & Pacific and the International & Great Northern

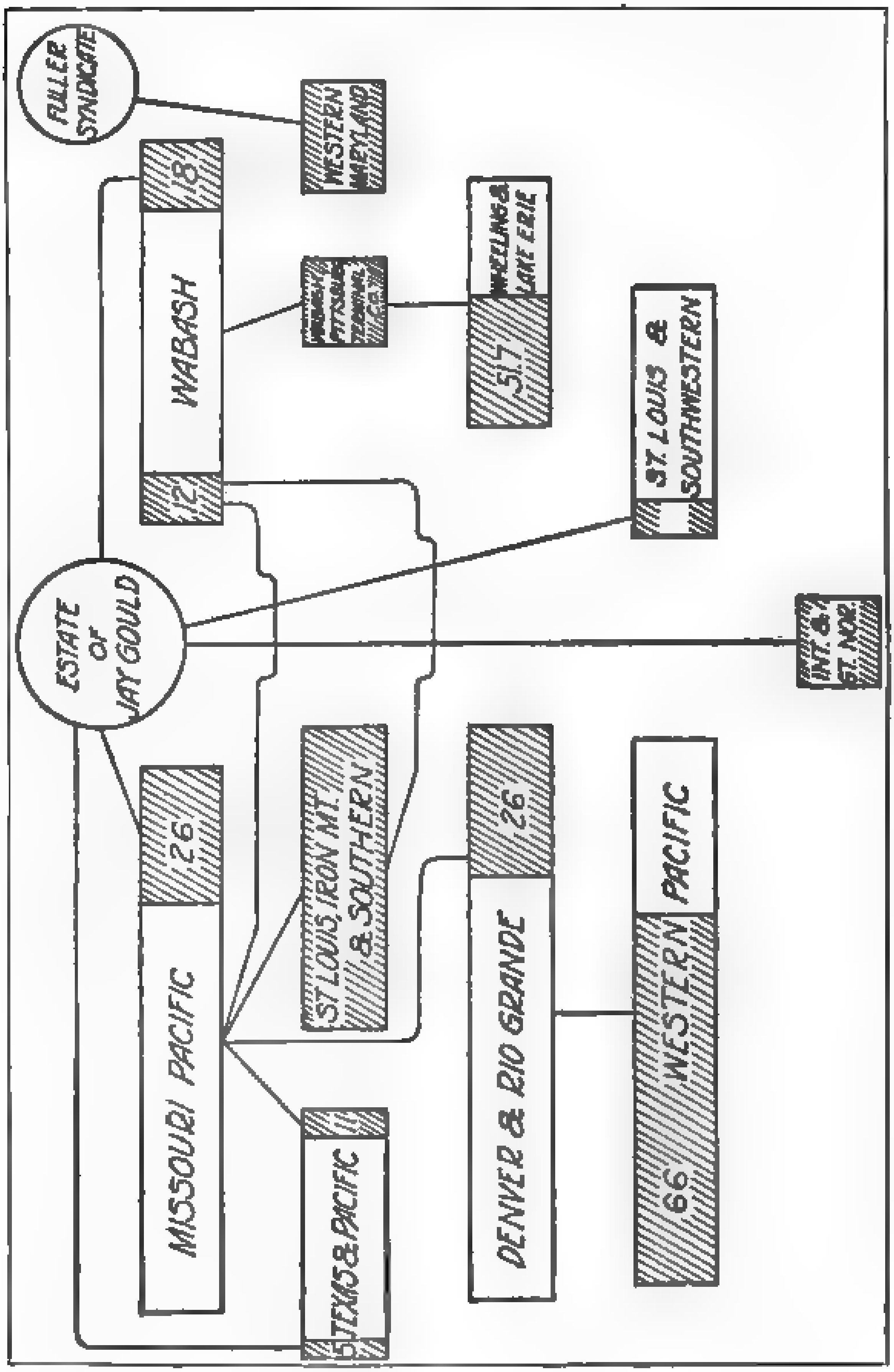
[1] In addition to the standard financial periodicals and annual reports of the companies, the following references are serviceable: ***Railway Age Gazette***, especially vols. XXXIV and XXXV: Philadelphia ***Saturday Evening Post***, Jan. 16, Feb. 16 and March 5, 1904; Boston ***Transcript***, Feb. 18, 1911; and *McClure's Magazine*, vol. XXXVIII, 1912, pp. 483–501.

[2] *Cf.* diagram on p. 519, *infra*.


WABASH R.R.
MISSOURI PACIFIC RY
DENVER & RIO GRANDE
WESTERN PACIFIC RY.
THE GOVLD SYSTEM-1906

reached farther down across Texas. The only line east of the Mississippi was the Wabash, extending to Toledo with lake connections thence to Buffalo. All the southwestern lines were weak roads, poorly constructed and worse maintained, operating in sparsely populated and little developed country. They were all greatly over-capitalized; and suffered from all the financial excesses associated with the career of Jay Gould. It has been truly said of him that he made his great fortune *out* of railroads, not in them. These properties were certainly no exception. It is important to emphasize this point, inasmuch as a part of the blame for the ultimate breakdown of the great plan for an ocean-to-ocean system is assignable to this cause. Too high a price had been paid for some of these roads, notably the Missouri Pacific; and they had for the most part long been in a state of chronic bankruptcy. Every available cent had been squeezed out in dividends, if indeed any net earnings were possible; and there was no credit to permit of further borrowing for purposes of improvement. Re-creation *from within* might have taken place through a drastic policy of retrenchment; but this course was not adopted, unfortunately, as an essential feature of the policy of expansion. The same old inefficient methods were applied to a great modern system which had for so many years characterized the policy of the separate lines. The contrast with the constructive Harriman programme is nowhere more striking than in this respect.

The far-reaching plan for expansion of the Gould roads was evidently formulated in 1901. This consisted of two entirely distinct parts; for extension of the lines of the Missouri Pacific, east to the Atlantic seaboard and west to the Pacific Ocean, respectively. The first step toward the latter end was the acquisition of about one-quarter of the capital stock of the Denver & Rio Grande road. This carried the system as far as Ogden, Utah, where, together with the Union Pacific, connection was made with the Central Pacific on to the coast.


FULLER SYNDICATE
WESTERN MARYLAND
18
WABASH
12
WHEELING & LAKE ERIE
51.7
ST. LOUIS & SOUTHWESTERN
ESTATE OF JAY GOULD
INT. & GT. NOR.
26
MISSOURI PACIFIC
ST LOUIS, IRON MT. & SOUTHERN
TEXAS & PACIFIC
26
DENVER & RIO GRANDE
PACIFIC
WESTERN
66

This first purchase was financed by a large issue of new stock by the Missouri Pacific, which was at the time in a relatively prosperous condition; and which promptly proceeded to initiate dividends on its largely increased capital stock instead of upbuilding its plant out of earnings. This inyasion of far western territory brought the Gould roads into immediate conflict with the then rapidly unfolding plans for a Pacific coast monopoly of the Union Pacific system, already outlined. And no sooner was the Southern Pacific, carrying control of the Central Pacific, purchased in 1901 by Harriman than the Denver & Rio Grande was denied further participation in through rates and facilities beyond its western terminus. Had the Interstate Commerce Commission then had the plenary power over joint rates which it now enjoys, the remedy would have been simple. But, under the circumstances, only one course was open, namely to construct an independent line on to San Francisco. This was incorporated as the Western Pacific Railway. It was financed by a public offering of bonds; but a majority of the capital stock was held by the Denver & Rio Grande. At the same time this latter road, then fairly prosperous, undertook to guarantee the payment of interest on the entire indebtedness of the new Western Pacific road. All might have been well had the original estimates both as to the cost and the length of time requisite for construction of this final link, not proven entirely inadequate.[1] The line was at last completed and formally opened for traffic in 1908. But as will shortly appear, the financial burden of so great an undertaking was too heavy for the remainder of the Gould system to support.

As for the plans for easterly extension, it is important to note the corporate connection between the Wabash and the Missouri Pacific. As indicated by the accompanying diagram on page 519, the principal nexus was through the large per-

[1] *Quarterly Journal of Economics,* vol. XXVIII, 1914, p. 781, on terminal troubles at San Francisco.

sonal holdings of the Gould estate in both roads. But in addition to this, the Missouri Pacific and its subsidiary, the Iron Mountain road, held stock as well as bonds of the Wabash. These holdings were considerably increased about 1904. A substantial and probably a controlling interest in the Wabash line was thus assured. This road in the meantime had been extended east as far as Buffalo. The next step was taken in 1901, when the Wheeling & Lake Erie, a single-track coal road only about two years old, was acquired through purchase of a majority of its capital stock. This brought the Gould system down to Wheeling, W. Va., within 60 miles of Pittsburg. The Pittsburg district is one of the most important traffic centres in the United States. Its freight tonnage of coal, ore and iron is said to exceed that of any other three cities in the United States; and to be more lucrative as traffic than the movement of the entire cotton crop. But this prize had long been enjoyed by the powerful Pennsylvania railroad, almost as a complete monopoly. Even as the western extension brought the Gould system into conflict with the Harriman forces; so also did this eastern expansion arouse the most bitter antagonisms among powerful transportation and allied banking interests. In the meantime, while the plans for reaching Pittsburg were in the making, arrangements for still further extension to the Atlantic Coast were being made. This was brought about through the acquisition in 1902 of the Western Maryland Railroad, a small property reaching inland from tidewater at Baltimore. Control of this was purchased from the municipality which had largely financed its construction. This too was a weak road, running up a tree at its western terminus. The plan was to carry it up to meet the Wabash extension at Pittsburg. This would complete the transcontinental system.

It will now be observed that all three of the gaps to be filled by new construction, lay in difficult and mountainous territory, calling for enormous expenditures of capital. But by far the most stupendous undertaking was the short stretch

of sixty miles between the Wheeling & Lake Erie and the city of Pittsburg. Not only does the city itself lie between two deep rivers with very high bluffs; but the entire district is also extremely rugged. This piece of road, therefore, proved to be one of the most expensive to construct in the United States. It is said that more than half of its length consists either of bridges or tunnels. Nor could it be cheaply built if it was to compete for the heavy low-grade traffic in coal and iron with the Pennsylvania road. The work physically was thoroughly done. Grades and curves were eliminated at any cost; and the many bridges were fashioned to carry the heaviest modern train loads. But much of the enormous cost of building this Pittsburg connection was not due to the physical obstacles. The legal and political difficulties to be overcome were even more formidable. The charter to bridge the Monongahela river, to be sure, was cleverly secured. It took the form of revival of a right once granted by Congress for construction of a railroad bridge into Pittsburg; but it was sought and granted ostensibly in the interest of a suburban trolley line. The right to construct elsewhere was simple enough under the lax provisions of Pennsylvania law. The real political difficulty lay in securing franchises from the city authorities for the construction of terminals, and especially of connections to the great outlying steel plants. Terminal sites alone merely called for large sums of money; but franchises had to be granted for all these spurs and feeders. And in face of the political control of the district by the Pennsylvania railroad, these franchises might never have been obtainable. Fortunately the unprecedented prosperity of the country in 1901–'02, so congested all the railroads of the country, the trunk lines included, that local public opinion finally in 1903 compelled the city authorities to grant the desired rights of entry in some measure. But the war between the Gould and Pennsylvania forces was not ended by truce until 1904. In the meantime, it had been extended to include all the other Gould

properties, notably the Western Union Telegraph Company. The Pennsylvania railroad for example at one time retaliated upon its rival, by ordering the complete removal of all the Western Union poles along its right of way, then giving the franchise to a rival concern, the Postal Telegraph Company. But at last the line was built, and all the properties were in 1904 consolidated as the Wabash-Pittsburg Terminal Company.

Whether under normal conditions of business, the far-reaching plans for creation of a transcontinental Gould system could ever have been successfully realized or not, will never be known. A chain is no stronger than its weakest link, and none of these links were over-strong. Moreover, until the connections were actually completed, the burden of interest on the excessive mortgage indebtedness could not be supported by augmented earnings. And the great cost of all the new construction had piled up a huge mass of obligations. The Wabash-Pittsburg Terminal Company, for example, had outstanding in 1906, about $54,000,000 of bonds covering its sixty miles of line. The enterprise is said to have cost more than $45,000,000. And as yet it had no adequate freight yards or terminal facilities; nor had it equipment of any sort. It had most valuable traffic contracts, with the Carnegie Company for instance, but it was as yet unable to make use of them because of the lack of physical connection with the plants. The Western Pacific work was also proceeding slowly. And all the other older companies had been under heavy strain for improvements to keep pace with the growth of business. At this most unfortunate juncture, came the sharp panic of 1906–'07. It was a shock too severe to withstand, and the entire system began to go to pieces.

The first link in the long chain to snap was the Western Maryland, which went into the hands of a receiver in 1908. The International & Great Northern, — a personal possession of the Gould family, — promptly followed suit; while the other Texas properties either defaulted on their bond interest

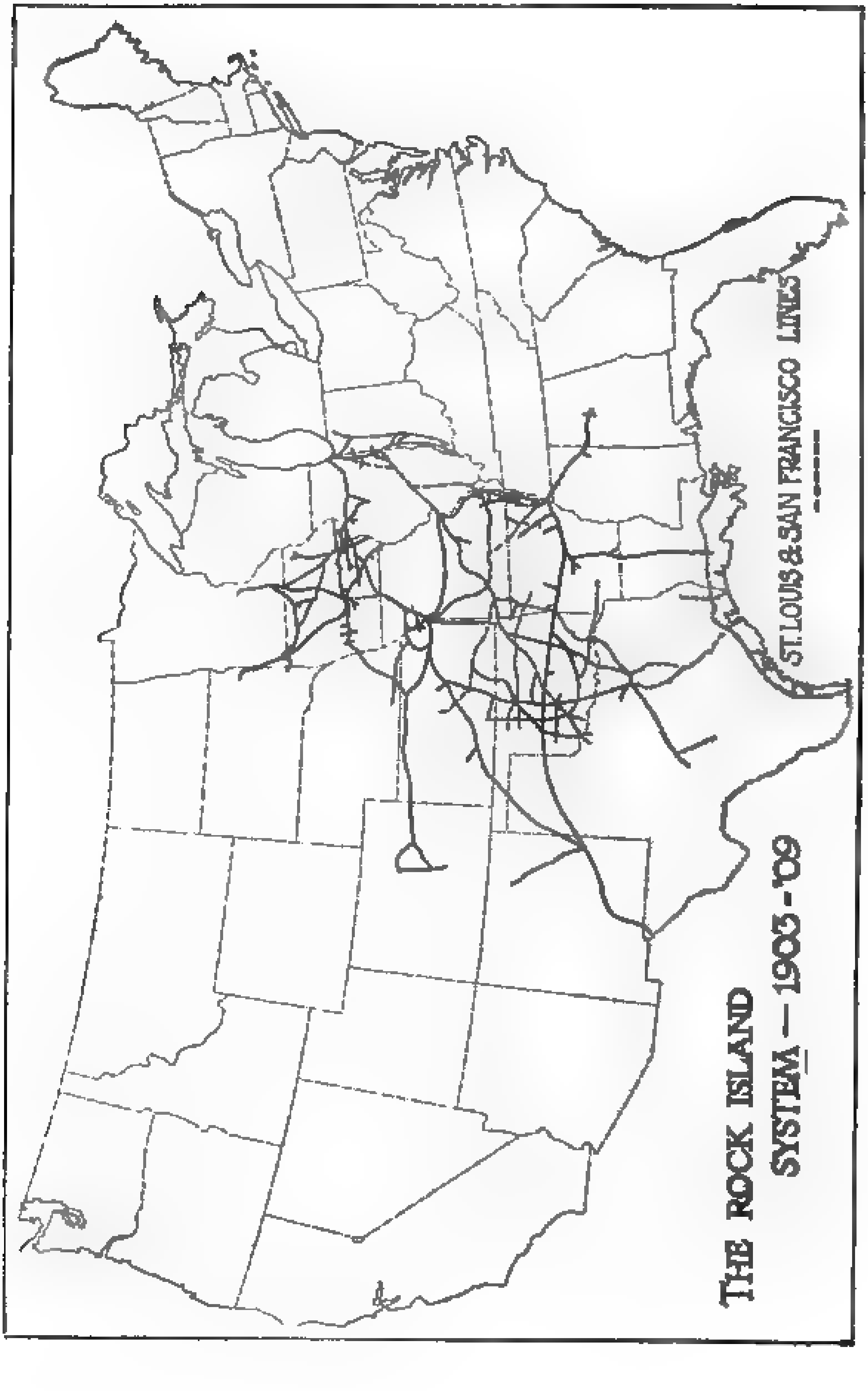
or reduced their dividends. Then came a receivership for the Wabash-Pittsburg Terminal Company, the stock of which was all owned by the Wabash; while a majority of the Wheeling & Lake Erie shares were held by the Pittsburg Terminal Company.[1] But the Wabash had only been loosely held by a syndicate. Strenuous efforts were made to hold the system together. Other property was sacrificed to this end. In 1909 the control of the Western Union Telegraph Company was sold. But all the strain from both ends of the line ran back to the Missouri Pacific at the middle. This company was forced to suspend dividends; and finally in 1911 was formally yielded up to great international banking interests, formerly closely identified with the Harriman system. In fact before his death, Harriman himself had already personally intervened on behalf of the Wheeling & Lake Erie road. And in 1910 with the collapse of the Pearson-Farquhar syndicate,[2] important holdings in the Wabash had gone to Union Pacific bankers. The Missouri Pacific was the keystone of the whole financial arch. With its loss the entire Gould domination came to an end. Moreover, with all the western lines, — rivals of the Union Pacific group for transcontinental business — passed over to the hands of Harriman bankers, the rate policy of the two was far more likely to be harmonious. And the long-standing needs of the companies for an efficient constructive management, aiming at internal reconstruction rather than territorial expansion, promised to be gratified. Some of these properties, notably the Denver & Rio Grande and the Missouri Pacific itself, ought to prosper under more favorable conditions. Whether they will yet do so must depend to some extent upon the industrial prosperity of the country as a whole.

The sudden rise and subsequent dismemberment of the so-called Rock Island system within eight years prior to 1911,

[1] On the Wabash reorganization, chapter XII, *supra*.
[2] P. 221, *supra*.

are of interest as illustrations of irregular financial method attendant upon almost exclusively banker management, rather than as an elucidation of any principles, economic or operating, having to do with consolidation. In fact it is clear that personal greed rather than constructive impulses have been the leading features in its management. Such being the case, the practical failure of the undertaking through loss of public confidence and internal dissension is matter for congratulation. The Rock Island consolidation was handicapped by at least four primary financial vices. It was grossly overcapitalized. It was organized solely for the benefit of a few "insiders." The general investing public was rigidly denied all information as to the real status of affairs. Its securities at all times constituted a blind pool of a highly speculative sort. And there is little evidence of any real constructive transportation policy, which by upbuilding either the property or the territory served, might in the course of time overcome or counterbalance its financial weakness, — little evidence, in other words, of the upbuilding genius which in a measure palliated some of the offences of the Harriman administration of the Union Pacific.

The kernel of the Rock Island system, which within a few months attained a total length of nearly 15,000 miles of line, was the old Chicago, Rock Island & Pacific *Railway* Company. Up to 1901 this was a prosperous, modestly capitalized and reputable granger road about 4,000 miles long, serving a well-settled territory between Chicago and Denver, with feeders running off toward the Southwest. A syndicate of bold speculators, — since known as the Moore-Reid party — then recently enriched by successful operations in the line of consolidations of steel properties, purchased control of it in 1901–'02. This was a costly affair. For in those "boom" times Rock Island stock, — and there was $50,000,000 of it — sold above $200 per share. But the necessary funds were temporarily secured by the familiar processes of pyramiding loans from



THE ROCK ISLAND SYSTEM — 1903-'09

the New York banks. The primary purpose of the plan of corporate organization adopted was to enable continued control of the property while lessening the burden of these extensive borrowings; or, in other words, to enjoy the fruits of management of the road without actually owning any considerable fraction of it. The first step toward this end was to increase the share capital of the original *Railway* Company to $75,000,000. The second, to recall the details of our earlier treatment of the subject,[1] was the chartering in Iowa of a purely financial corporation, the Chicago, Rock Island & Pacific *Railroad* Company, capitalized at $145,000,000. And then again in the state of New Jersey, still another financial corporation, the Rock Island Company, was chartered, this time with a capital stock of about $139,000,000. These two latter concerns — the Rock Island Company and the *Railroad* Company — then in substance exchanged shares with one another, no cash being necessary to the transaction. This left the Rock Island Company as sole stockholder of the *Railroad* Company; while this latter corporation was in possession of most of the share capital of the *Railway* Company. Thus far all was on paper. Now followed the first real transfer of property. The *Railroad* Company, standing between the other two, as shown by the diagram on p. 153, offered to purchase their holdings from the stockholders of the original operating *Railway* company, — the only one, be it observed, which had any real possessions to sell. Specifically, this *Railroad* company offered for each $100 share of old *Railway* stock, an equal amount of its own *Railroad* collateral trust bonds, to be secured by the *Railway* shares thus acquired; and in addition $70 in preferred shares and $100 in common shares of the Rock Island Company, — these having been acquired by the prior exchange of securities above-mentioned. This inextricably bound all three corporations together. The offer, made primarily to themselves, as they had already bought up nearly all of the old

[1] Pp. 153 and 205, *supra*.

Railway shares in the open market, was promptly accepted by themselves, despite the vigorous protest of outside minority interests. About 93 per cent. of the *Railway* stock was thus exchanged, which at the prevailing market prices showed a substantial paper profit to those who accepted the offer and could forthwith sell their new securities. On this basis the gist of the plan was by marketing the new collateral trust bonds, to reimburse the managers for their original outlay in buying up the old company. The attractiveness of the plan to those who chose to keep all their securities was that it gave what appeared to be as much certain income yield as before, with a bonus of new stocks which might some day become valuable. Such was the apparent result. But there was another feature not so evident at once to the general public and yet of far greater importance to those immediately concerned.

The significant feature of this reorganization, apart from the mere multiplication of holding companies, was the practical vesting of control of the Rock Island Company in its relatively small amount of preferred stock. For the right to elect five of the nine directors was lodged in its possible $52,500,000 of preferred shares, to the exclusion of all common stockholders. Moreover, this sole power of electing directors could not be surrendered without consent of two-thirds of the preferred shareholders; nor could the amount of such stock be increased without affirmative vote of two-thirds of both classes of shares alike. By this means, supposing all the old railway shareholders were to effect the exchange, the possession of 262,501 shares of preferred stock would permanently intrench a management in control. Not all the old shares were actually exchanged; so that only about $48,000,000 of preferred stock had to be issued. And of course, it will be observed that while at par this would require an investment of less than $25,000,000; the enormous increase in the total capitalization of the system, especially swollen in later years by largely increased mortgage

indebtedness of the several operating railroads controlled, progressively lowered the market price of this preferred stock. It was evidently expected that this mode of finance would substantially lower quotations all round; and hence render control comparatively cheap. Yet it is improbable that so serious a decline was contemplated, as in fact actually occurred. By 1908 the preferred shares dropped from 86 to less than one-quarter of that figure. Six years later they reached a quotation of $1\frac{3}{8}$. At this latest figure $300,000 worth of preferred stock would control the entire Rock Island Company; leaving it in turn to control all those below it in series. But it is only fair to base the calculation upon prices prevalent when the combination was at flood tide. In 1908 a little over $5,000,000 worth of this regnant preferred stock kept the banker management in the saddle. When it is considered that the aggregate stock and funded obligations both of the 15,000 miles of railroad and of the two holding companies was at par $1,500,000,000 the preposterous and top-heavy character of the whole organization is plain. The wonder is that the project could ever have succeeded at all. That it did so, is a striking commentary upon the speculative furor of the time.[1]

Having completed its financial organization as above described, and with an investing public ready and even eager to purchase collateral trust bonds based upon railroad stocks deposited as collateral, it was now a relatively simple matter to expand the Rock Island railway net. This took place in two directions; first toward the south and west and later into trunk line territory. Further financial details are not necessary. Most of the purchases were effected by the issue of collateral trust bonds of the intermediate holding company, the so-called *Railroad* company. No cash was therefore required. In 1902 the Choctaw, Oklahoma & Gulf, from Memphis due west into Texas, was acquired. And the next

[1] *Railroad* collateral trust bondholders successfully foreclosed and took the *Railway* stock in January, 1915.

year the lines were extended to the most important Gulf ports, New Orleans and Galveston; and the rich Alabama iron and steel region at Birmingham was tapped by purchase of the St. Louis & San Francisco. Thus the entire region from St. Paul to the Gulf of Mexico and from the Mississippi to the Rocky Mountains was well covered,—possibly too well covered in places. For the original Rock Island and "Frisco" roads were clearly competitive rather than complementary at many points. Given this wide territorial expansion, it was next in order to procure eastern connections. This was done in 1903 by absorption of the Chicago & Eastern Illinois, thus giving a direct line from the southwest into Chicago, besides by means of the Evansville & Terre Haute, traversing the entire length of Illinois, cross-cutting every possible outlet to the east. Then the Chicago & Alton was taken on, at first for alternate years with the Union Pacific road, but finally *in toto*. It seemed, indeed, as if both trunk and branches were so arranged as to promote the utmost growth of traffic in future. Even more comprehensive plans for expansion seem to have been for a time entertained. As late as 1908 a Rock Island syndicate acquired a one-quarter interest in the Lehigh Valley Railroad, which would have given access to the Atlantic seaboard, provided some connecting link like the Wabash could be brought into line. But in the meantime, internal dissension seems to have arisen which finally led to a partial disruption of the system.

The fruits of irregular financing soon began to be apparent. Public confidence in all Rock Island securities speedily declined. Despite rapid increases in gross earnings, the necessary funds for improvement could not be raised through the sale of bonds. And this of course meant inadequate facilities and imperfect maintenance, hence abnormally high operating expenses. Under such circumstances net earnings responded but feebly to growth of mileage. Such borrowing as was effected was at ruinous rates. During the five years to 1907,

the operating *Railway* company doubled both its net earnings and its funded debt; but its fixed charges increased nearly threefold. So severely was public confidence shaken, that the New York Savings Bank Association finally disallowed the collateral trust bonds for institutional investment. The old *Railway* stock once commanding a price of over $200 per share, was by 1914 represented by a set of securities worth in the aggregate at public sale only about $18. Rock Island Company common stock practically dropped out of sight. And much the same thing was true of the securities of the other absorbed roads.

The later disintegration of the Rock Island is a matter of recent history. In how far this was due to financial necessity, to appreciation of the fact that many parts of the system were unduly competitive with one another, or to the activity of the Federal government in enforcing the Sherman Anti-Trust Act, cannot well be ascertained. In 1907 the Chicago & Alton — a scuttled hull — was sold, its stock being exchanged for bonds of one of the so-called Hawley roads. Two years later, the "Frisco" company with its 6,500 miles of line was set off through retirement of the collateral trust bonds based upon deposit of its stock.[1] This was a serious loss in itself; especially as it carried all the lines east of the Mississippi, including the then Lehigh Valley share holdings. Practically, it left two great competitive systems, not widely different in mileage, each with branches spread through the Southwest and with stems reaching Chicago. And of the two the "Frisco" was the more homogenous and compact. For the Rock Island in its lay-out manifests a disposition to sprawl out rather loosely over the map.

The important lesson that any road with so huge a burden of securities that they of necessity command very low prices, is bound to become a prey to stock market manipulation, both from within and without, is well inculcated by Rock Island

[1] P. 155, *supra*.

experience. From the beginning a mere football of speculation,[1] its annual reports worse than an enigma, its career has been of little consequence to the investing public. In 1909–'10 it was seized upon by an English syndicate which aimed to create a new transcontinental system out of various properties of much the same sort.[2] With the collapse of this speculative affair, some forty per cent. of Rock Island preferred stock was taken over in block by new banking interests. Whether the original promoters still control the necessary 51 per cent. of the preferred shares remains to be seen. In most companies whose shares command public respect, practical control of a railroad is accompanied by the ownership of at least one-quarter of its capital stock. The question is merely of academic interest in view of the impending reorganization of the entire property, which, as we have already seen,[3] seems likely to be accomplished through the elimination of the superfluous holding companies alike.

An entirely secondary aggregation of nine or ten low-grade and detached railroads may be dismissed in a word. This is the so-called Hawley group, bearing the name of its main promoter. For a time, beginning with the acquisition of the Minneapolis & St. Louis in 1895, with the later additions of the decrepit Iowa Central, the "Clover Leaf," the "Katey" and the ill-famed Alton, it seemed as if an important transportation combination might result. This seemed especially likely when the Chesapeake & Ohio was taken over from the trunk-line systems, which, as we have seen, were induced to part with it through the legal activities of the Federal government. But the inferior quality of these properties, calling for vast sums in the way of betterment in their severally detached locations, stood in the way of any comprehensive operating

[1] P. 205, *supra*. [2] P. 221, *supra*.

[3] Chapter XII, *supra*. By foreclosure the Rock Island collateral trust bondholders in December, 1914, have at last secured possession of the old *Railway* stock.

plan. At all events the death of Edwin H. Hawley seems at this writing to have put an end to further progress along this line.

Having thus passed in review the remarkable tendency toward combination up to about 1907, it remains only to note the very small number of important companies which still deserve the name of independent roads. The Pennsylvania by itself is sufficiently great to stand alone as a system. All the others were in one way or another linked up in series; with the exception of two transcontinental roads, the St. Paul and the Atchison, Topeka & Santa Fé. (Map, p. 477.) It has often been prophesied that the latter will some day mate with the Pennsylvania to form an ocean-to-ocean system. The fact seems to be that each is so prosperous, so strongly backed financially and, moreover, has so large a proportion of small stockholders, that it would be almost impossible to wrest control from the present managements. Some railroad groups are powerful geographical monopolies, as in the coal fields, in New England (once) and in the southern states. Some are prosperous because of their well-ordered lay-out and their efficient management upon great through routes of trade. Such are the Hill and Harriman systems. But the Pennsylvania, the St. Paul and the Atchison roads, each offer so strong a combination of strategic location, financial power and able administration, as to promise continuance as sole survivors of a time now apparently passed into history. If, however, they were to be brought into a close alliance with one another, what an invincible combination they would make! The Federal law could not lay hands upon them as team mates; for their lines are nowhere competitive. They supplement one another at every point. And as a matter of commercial strategy, such an aggregation of transportation units would reach almost every trade portal of the United States, and, with the exception of the cotton crop, would tap every great field of our agricultural and industrial production.

CHAPTER XVI

THE ANTHRACITE COAL ARRANGEMENT[1]

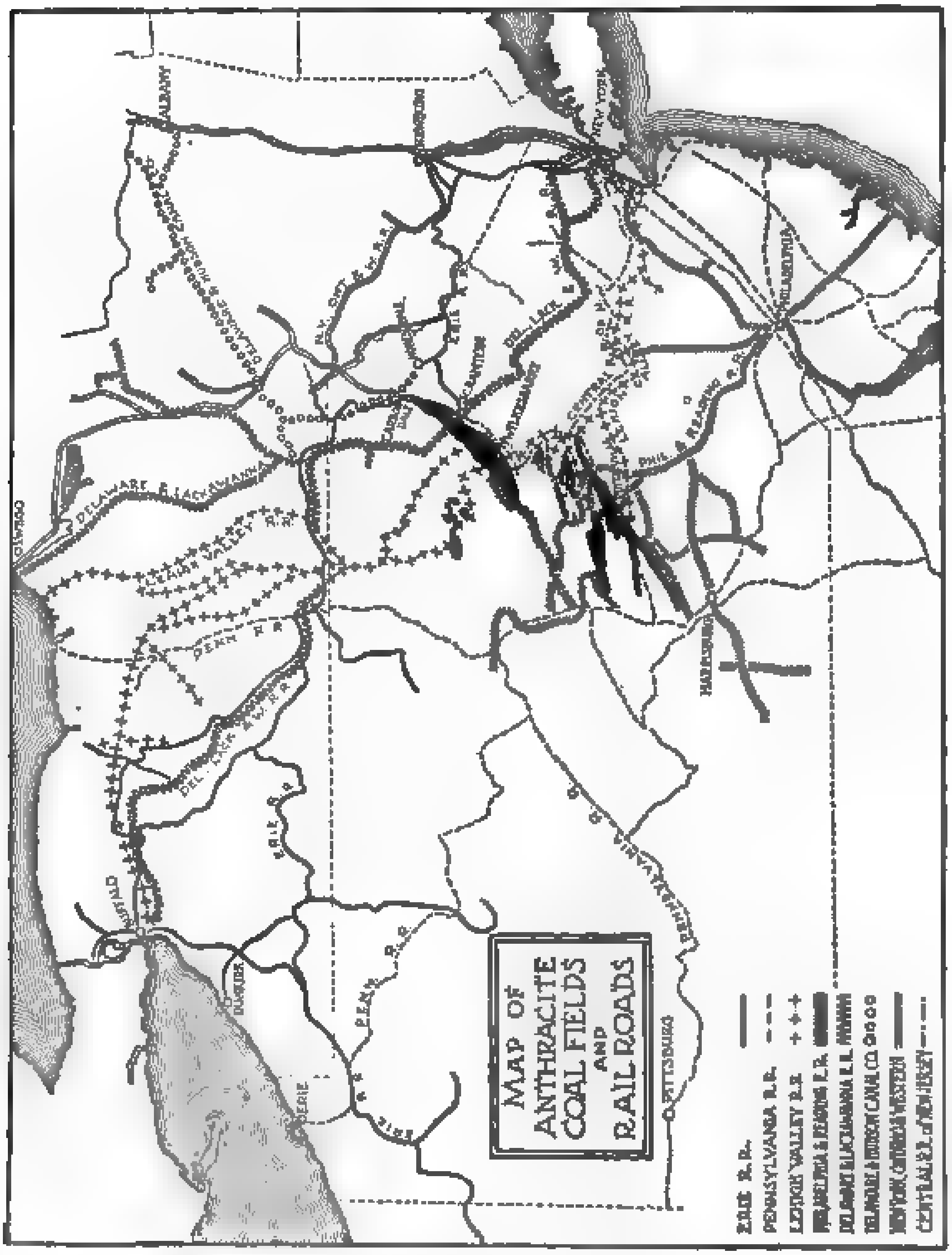
Nature and location of the anthracite deposits, 534. — Every invitation to monopoly offered, 536. — Predominant and increasing railroad ownership, 537. — Early attempts to maintain prices, alike unsuccessful, 539. — Peculiarities of the business responsible, 540. — After 1898, conditions ripe for real monopoly, 541. — Three features of the new plan, 541. — Non-railroad operators eliminated by increased percentage allowances, 542.— Two projected independent railroads throttled, 543. — Actual corporate consolidation, 544. — Inter-railway relationships tightened, 544. — Proof of monopolistic combination, circumstantial if not documentary, 545. — Remedial action, 547.

The anthracite coal measures of northeastern Pennsylvania are irregularly distributed over an area of less than 500 square miles of territory, — only 22 miles square, in all. The location appears upon the accompanying map on the next page.

These deposits lie scattered over four distinct areas, known respectively as the Northern or Wyoming field, extending, as our map shows, from Carbondale south by Scranton and Wilkesbarre; the Southern or Schuylkill field, lying east and west of Pottsville; and two smaller intermediate fields known respectively as the Eastern Middle or Lehigh region about Hazelton, and the Western Middle or Mahanoy and Shamokin basins. The character of the deposits in these several fields is somewhat different. The Northern field has been worked for a much longer time, and the danger, difficulty, and cost of mining are

[1] This brief summary is based upon my Report of 1901 to the U. S. Industrial Commission, vol. XIX, pp. 444–466. The entire subject has been authoritatively treated by Dr. Eliot Jones, The Anthracite Coal Combination in the United States, pp. 1–250; *Harvard Economic Studies*, 1914. Complete bibliographical data are included. From this source my own report has been brought down to date.

considerably less than in the remaining territory. This is largely because the Wyoming coal measures lie in a broad shallow fold not more than 1,000 to 1,200 feet below the surface;



although between Wilkesbarre and Nanticoke, where a large part of the supply now remains, the measures extend as deep as 1,800 feet. In the Western Middle field, where the folds are

much sharper, the depth of the deposits is considerable. The Mammoth beds, 40 feet or more in thickness, lie here as low as 2,000 feet under the ground. In the Southern field, which must of necessity constitute the bulk of the supply for the country in future years, the general depth is very great. It is estimated that fully one-half of the unmined coal is in these measures, not less than three-quarters of a mile below ground. Here are principally the enormous reserves of the Reading and the Central of New Jersey,[1] which await development after the relatively accessible beds further north have been worked out.

Every essential for one of the most perfect natural monopolies in the world is possessed by these anthracite deposits. The product is an article of prime necessity. As a fuel, it is a natural coke, far superior to soft coal because the undesirable soot and gas have been removed by the heat and pressure associated with the upheaval of the Appalachian highlands. Thus there is no good substitute for it. The demand, furthermore, is remarkably constant. For the "prepared sizes" are utilized almost exclusively for domestic purposes. Hence the consumption is far less susceptible to the ups and downs of business than that of soft coal. The market is a highly dependable one. The possible profitableness of the business, too, is greatly enhanced by convenience of location, midway between the greatest population and industrial centres of the United States. With a well-nigh indispensable commodity, a stable demand for it, and ready access to a great market; what more could potential monopoly ask, save that the supply should be limited, and hence capable of being garnered under one control!

The sharp geological definition of the hard coal deposits upon the map throws the last essential to perfect natural monopoly, a restricted supply, into high relief. The actual amount of coal unmined has been ascertained to be approxi-

[1] *Cf.* my map, U. S. Industrial Commission, 1901, vol. XIX, p. 462.

mately 6,000,000,000 tons of marketable anthracite, allowing for the high proportion of waste in mining.[1] At the present accelerating rate of shipment this aggregate points to a probable exhaustion of the supply in about one hundred and fifteen years. More uncertain is the up-grade of consumption year by year, than the actual mass of coal below ground, so precisely measurable are the beds. It is doubtless this contrast between the strictly limited supply of anthracite and the practically inexhaustible deposits of soft coal, underlying the entire Middle West, which accounts for the pertinacious assiduity with which the railroads have sought to hold and tighten their grip upon the business. The inevitable rise in the price of hard coal, until, indeed, the name of black diamond becomes truly apposite, promises richly to reward a successful combination.[2]

The present control of the coal fields by the railroads has been a long, slow process. As far back as 1834 the danger of a union of transportation and mining was officially reported to the legislature of Pennsylvania. But as late as the '50s the Schuylkill region, which was principally worked at that time, was still mainly served by canals. With the advent of rail facilities during the decade, development spread up into the Wyoming territory, with a consequent steady increase in railroad ownership. First in the field in 1851 was the Lackawanna, followed four years later by the Lehigh Valley. Progress was for a time impeded by the absence of legal authority to exercise mining privileges. And, oddly enough, the Reading, now the acknowledged leader, until 1869 stood as a dog in the manger opposing all grants of mining privileges to railroad corporations. For nearly a generation after 1842, it seems to have confined itself almost exclusively to transportation. The turning point in public policy came in 1868–'69, when the

[1] 21 I. C. C. Rep., 152; also Jones, *op. cit.*

[2] *Cf.* chapter II and p. 231, *supra*, on net earnings of the hard coal roads.

Pennsylvania legislature threw wide open the doors for the railroads "to aid corporations . . . to develop the material interests of the commonwealth." Railroad ownership of coal lands and mining companies was immensely stimulated at once, both at the hands of the two companies already in the field and of other newcomers who stood waiting outside. Foremost was the Philadelphia & Reading, which within a few years bought up approximately one-third of the coal lands of the whole anthracite basin, principally in the Schuylkill field. The Central of New Jersey also came in at this late day; but it, too, pressed forward so vigorously that it was soon a close second to the Reading in coal possessions. A feeble protest against the prevailing tendency was embodied in the Pennsylvania constitution of 1874, prohibiting common carriers from engaging in the mining business. But no more attention seems to have been paid to it than to most other legislation in the interest of the people against corporations in Pennsylvania, either before or since.

The result of the foregoing development was that, at least until 1913 when the Pennsylvania Railroad announced its withdrawal, the hard coal fields were predominantly in the hands of the eight railroads depicted upon our map. Little mining was done directly; most of it was carried on through the medium of coal-mining companies.[1] In 1900 these eight railroads produced about 62 per cent. of the total output; and as a result of the aggressive campaign soon to be described, raised the marketed proportion to about nine-tenths within a few years. Only about three-quarters of the total shipments, even then, were actually mined by railroad coal companies. But the balance of the nine-tenths controlled, was tied up by perpetual contracts with the independent mine operators. This predominant mastery, furthermore, must inevitably strengthen with the passage of time; inasmuch as the still

[1] Jones, *op. cit.*, pp. 113–131; Railroads: Rates and Regulation, p. 552, for details of intercorporate relations.

independent mining is mainly confined to the Wyoming field, now approaching exhaustion.[1] The last "submerged tenth" of individual production outside of railroad control promises to be eliminated automatically as early as 1933. There are only four railroads, indeed, which have enough coal unmined for more than fifty years; and only three which can outlast a century.

Although the anthracite coal deposits theoretically constitute so perfect a natural monopoly, experience has discovered a number of difficulties in the way of accomplishment. These obstacles cropped out in the successive attempts which for a generation down to 1900 were unsuccessfully made to control the output, and thereby the price of the product, by concerted action of the mine operators, that is to say of the railroads. The first project, in 1872, took the form of a railroad pool; but it proved ineffective owing to inability to keep the members within their allotment of tonnage. After a disastrous interregnum, the arrangement was renewed six years later, and worked well enough in good times. A "friendly understanding" preserved the peace during the prosperous years to 1884; but the panic soon caused the bottom to drop out of the market thereafter. The agreement was revamped in 1886, for the first time taking in the Pennsylvania Railroad, and imposing a penalty for exceeding the apportioned tonnage. Once again the results fell short of expectation. Furthermore, after 1887 the prohibition of pooling stood in the way of anything like a formal understanding. Stricter control of the trade in the early '90s was then attempted through corporate combination of the competing roads. The Philadelphia & Reading took the lead both in the purchase of competitors and in promoting inter-relation through community of interest.[2] But everything naturally went to pieces again with the bank-

[1] *Cf.* the detailed maps of railroad and independent holdings in our U. S. Industrial Report, 1901, vol. XIX, at p. 448.

[2] The U. S. Industrial Commission of 1900 offers much evidence as to this experience.

ruptcy of this company in 1893. During the ensuing hard times the old allotment plan was revived and for a time was efficacious. But it, too, soon went the way of its unlucky predecessors, proving powerless to support the market. None of the plans accomplished more than a temporary sustentation of prices which yielded at once under the slightest falling off in the demand.

The failure of the persistently renewed attempts at control was due to certain peculiarities of the hard coal business. Probably the most important was the wide variability of demand from one season of the year to another. Anthracite of the so-called "prepared sizes" is primarily used for domestic purposes; in consequence of which the demand, unlike that for manufacturing, although constant year after year, fluctuates widely both according to the season and the weather. The short-sightedness of householders postpones the filling of bins until the first touch of frost, when the demand comes with a rush. There is thus an alternation of stagnation and activity in the collieries which must, nevertheless, maintain sufficiently large plants to meet the maximum demand when it occurs. Nor can this peak of the demand be anticipated, practically, for a number of reasons. Interest charges accumulate; storage costs and double handling are expensive, and the product rusts on continued exposure to the weather. Normally, therefore, expensive plants must lie idle in part throughout much of the year in order that the maximum demand may be promptly met when it arises. Certain expedients such as enticing discounts for early purchase during the spring and summer, and improvements in the method of handling the product, were good as far as they went. But, on the whole, the temptation was continuing and irresistible for each operator to more nearly work his plant to its full capacity all the time, even although that had to be done by shading the price.[1]

[1] The parallel with the potash Kartell in Germany is almost perfect. *Quarterly Journal of Economics*, vol. XXVIII, 1913, p. 140 *et seq.*

The mere bigness of the project of monopolizing the anthracite coal business was an obstacle even more formidable than the operating difficulties above described. It called for more than the mere control of shipments. Acquisition of all the reserves of unmined coal was also necessary. This, in turn, entailed an accumulation of fixed charges for indebtedness incurred in buying up these reserves under ground, which must be borne by the profits of immediate operation. No success could reasonably be anticipated in this direction until the consumption had so far increased that it was able to bear the burden of the unmined supply upon its shoulders, aided in so doing by power to raise the price. The Reading had repeatedly gone bankrupt in the past by attempting to carry the load alone. The time was first ripe for achievement in this direction with the advent of prosperity in 1898. Thenceforth, combination among the anthracite coal roads became part and parcel of the great movement toward consolidation of common carriers in other fields which has already been described.

The ultimately successful campaign against competition after 1898 developed along three independent lines of attack. The first two, namely, actual corporate consolidation and community of interest, were prosecuted in a manner not essentially different from that pursued by the carriers elsewhere. It was the third, the attempted elimination of the independent operators, which was peculiar to the anthracite coal fields.

The relation of the shipper of coal to the railroads in anthracite territory has always been unlike that which prevailed elsewhere. Instead of charging so much per hundred pounds for carriage, the hard coal railroads allowed the operators a certain percentage of the market price, whatever that might be. The usual percentage of the tide-water price for the larger sizes of coal gradually increased with the progress of time from 40 per cent. in the early '80s to a standard of 60 per cent. ten years later. Such allowances were fixed by means of contracts entered into for a term of years. Nor did it affect

the system whether the coal mines were owned by the railroads through subsidiary corporations or were independent; except that in the former case the carriers were making engagements between their own right and left hands. The percentage of the tide-water price allowed at the mine mouth was to them a matter of indifference, or rather merely of bookkeeping. Not so the independents. For they could not recoup themselves for losses in coal mining by gains in transportation, as did the railroad companies. The bone of contention, then, worried over for years, was the fixing of this percentage allotment, which was of importance, however, only to the small body of independents, mostly in the Northern field, who still remained free to ship and market their coal as they chose. With them the struggle settled down to the determination of a fair percentage rate. Their lives depended upon it. To the railroad, on the other hand, the most important feature of these percentage contracts was a clause which should tie up the mines indissolubly to one or another of the carriers to which they had access.

The widespread dissatisfaction among the independent mine operators in the late '90s, with an arrangement which left them but 60 per cent. of the tide-water price, was dealt with by the railroads in two ways. The smaller ones were quieted by granting them an increased proportion of the market price. The more powerful ones, who were capable of making trouble, had to be purchased outright. As for the former, the increase in their percentage allowances took place in connection with the great coal strike of 1900. The Republican party, fearing lest the election of McKinley be endangered, persuaded the operators to concede an advance in wages of 10 per cent. Many of the independents hung back, hoping to recoup themselves for this wage increase by a reduction in freight rates. After extended conferences a new standard arrangement between the mine operators and the railroads was agreed upon. The three significant features were: an increase of the per-

centage allowance to 65; a supply of cars guaranteed to the operators in such quantities "as in its [the railroad's] judgment, the requirements of the market will permit"; and a contract in perpetuity.[1] Thus did the mine owners, in consideration of a surrender of their independence forever, receive assurance of a better price and adequate facilities for reaching the market. But the determination of their share in the total production was committed irrevocably to the railroads.

The threat of the larger and more aggressive independent operators to kick over the traces, finally inducing the railroads to buy their mines outright, took shape in two projects for the construction of independent railroads from the coal fields to tide water. The first, in 1898, proposed to build the New York, Wyoming & Western as an outlet for the Lackawanna region. Several million tons yearly were pledged to it, the largest individual firm promising well over one million tons. This enterprise was brought to an untimely end through the agency of the Temple Iron Company, a holding corporation already described.[2] This excellent corporate instrument was employed by President Baer of the Reading to prevent these troublesome independents from becoming "Ishmaelites in the field." As a holding company it bought out the independents, and to it were transferred a number of outlying concerns.[3] Its capital stock was apportioned among seven of the anthracite coal roads, — all except the Pennsylvania, in fact; and its tonnage, as acquired, was distributed among them in proportion to their several mining capacities. The second proposition for an "Ishmaelite" railroad was fathered by the Pennsylvania Coal Company, the largest of all the independent operators, which produced in 1899 some two million tons of coal. An abandoned canal was actually purchased for the road-bed, and terminal facilities on the Hudson river were acquired. This railroad promised like the other to advance the allowance of the opera-

[1] Jones, *op. cit.*, p. 91. [2] P. 437, *supra.*

[3] Complicated transactions described by Jones, *op. cit.*, p. 78 ff.

tors to 65 per cent. But the project was frustrated in 1899, as in the former case, by the Erie, which with great difficulty succeeded in picking up a majority of the coal company shares from scattered holders throughout Pennsylvania.

Actual railroad consolidation, as a means of tying up the hard coal situation, was also actively pushed after 1898. The Erie first purchased the New York, Susquehanna & Western, upon its threat to become an independent carrier to tide water. This was succeeded by the purchase of a controlling interest in the Central Railroad of New Jersey by the Reading in 1901.[1] This second transaction brought together the two railroads controlling the largest reserves of unmined coal in the field, — about 63 per cent. of the existing supply altogether. It also gave the Reading a direct line to tide water at New York, relieving it of the necessity of a round-about haul by way of Philadelphia. Three years later, the New Haven took over the New York, Ontario & Western which up to that time had been something of a free lance. And in the same year several other small railroads in the Lehigh field were also brought within the railroad fold.[2]

While the foregoing corporate combinations were taking place, rapid progress was being made toward monopoly by means of inter-railway stock ownership and interlocking directorates. Among the former, the most important single transaction was the joint purchase by several of the coal roads under the leadership of the trunk lines, of nearly 30 per cent. of the capital stock of the Lehigh Valley. The presidents or leading directors of the other coal roads promptly entering its directorate, the Lehigh Valley was and still is virtually brought into assured harmony with all of its natural competitors. These events, it should be noted, were taking place concomitantly with the concerted activity to eliminate competition from the trunk line territory.[3] The final result was an extraordinary interweaving of stock ownership and directoral repre-

[1] P. 66, *supra*. [2] Jones, *op. cit.*, p. 65. [3] P. 480, *supra*.

sentation. The same individuals or banking interests appear repeatedly upon the boards of this entire group of companies. The complexity has abated somewhat of late, in response to the pressure of public opinion and law; but still, to all intents and purposes, these anthracite coal roads conduct their affairs as a unit.[1]

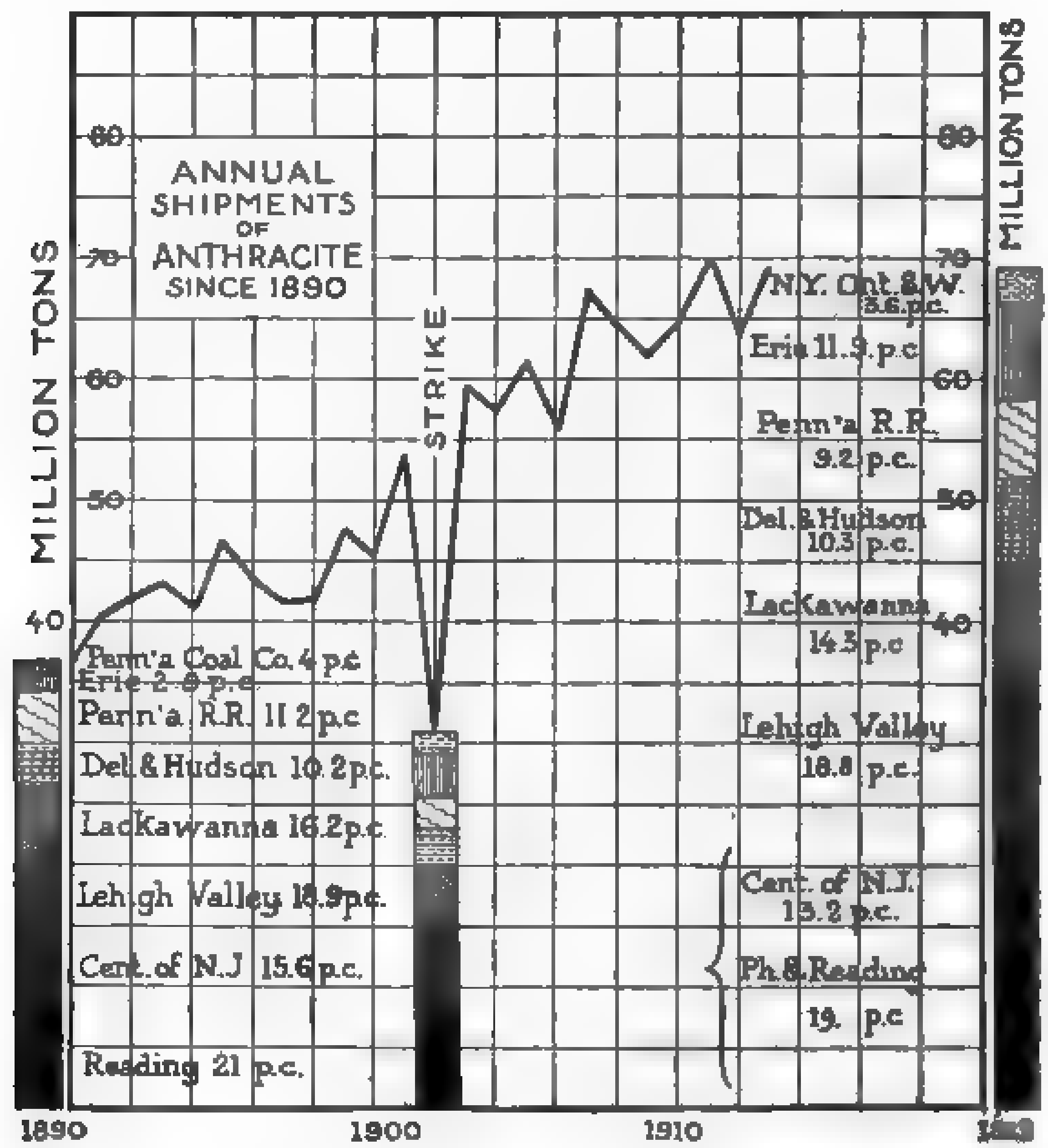
If further proof of the existence of combination than the inter-railway relationships already described were needed, it would appear as if the evidence, statistical if not legal, were convincing enough. Formal or other documentary record has been most ingeniously avoided.[2] But the slightest evidence of corporate independence has been promptly smothered by the application of forceful banking and railroad pressure.[3] Furthermore, it is inconceivable that the allotment of tonnage between the different carriers should have been maintained

[1] Jones, *op. cit.*, p. 71, describes the situation in 1903 as follows: "Four out of the nine directors of the Reading Company constituted four of the nine directors of the Central of New Jersey. Six out of the thirteen directors of the Lehigh Valley were directors either of the Reading Company or of the Central of New Jersey. Four out of the fourteen directors of the Lackawanna were directors of the Reading Company or of the Central of New Jersey, three of whom were directors of the Lehigh Valley also. Three of the directors of the Erie were directors of the Reading Company, three were directors of the Central of New Jersey, three of the Lehigh Valley, and one was a director of the Delaware & Hudson. One of the directors of the Delaware & Hudson was, therefore, a director of the Erie, and another was a director of the Ontario, and also of the New York Central, and of the Lake Shore. After the New York Central and the Pennsylvania obtained practical control of the Reading, and large interests in other roads, the ramifications became still greater. Three of the New York Central directors, and three of the Lake Shore directors, were then directors of the Lackawanna, one of the directors of the New York Central was a director of the Reading Company and of the Lehigh Valley, and another was a director of the Delaware & Hudson and of the Ontario. The Pennsylvania, through the Baltimore & Ohio, was represented by one director in the Reading Company and in the Central of New Jersey, and by two in the Lehigh Valley and two in the Erie. In addition, Mr. Morgan, a director of the New York Central, and of the Lake Shore, had very large holdings in the anthracite coal roads."

[2] *Cf.* 52nd Cong., 2nd sess., House Rep. no. 2278, vol. I; and p. 570, *infra*.

[3] Jones, *op. cit.*, p. 146, cites the leading case of the Ontario & Western in 1906. *Cf.* especially the correspondence reprinted in Appendix.

so unchangingly without an "understanding," by telephone, telepathy or otherwise. No matter how widely the total shipments have fluctuated year by year, nor how great the increase from one decade to another, each railroad has as unfailingly adhered to its percentage allowance as have the planets followed their courses in the heavens. This constancy is exhibited by means of the diagram following. Comparison of the first



and last years covered by this chart with the abnormal situation at the time of the great strike in 1902, brings out the extraordinary persistence of a well-defined division of traffic. Thus, the Reading handled the following percentages of the

total anthracite shipments: in 1890, 20.97; in 1900, 20.70; in 1912, 20.21. Even under the abnormal strike conditions of 1902 when the total shipments were almost cut in halves, its proportion still "happened" to be 18.94 per cent. Viewed in a large way, the allotments of the original participants slightly declined during twenty years, probably because of the aggressiveness of independent intruders; but since 1900, so firmly was restraint applied all along the line, that the deviation from standard was almost negligible. The medium of control seems to have been the Temple Iron Company which acted as a clearing-house for assuring to each railroad its "normal" share of the business; while at the same time applying the brakes against any over-production which might tend to break the "standard" price.

What is there to do about it? Is there no hope of escape from monopoly? There are only three instrumentalities which promise relief. These are now in the hands of the Federal government. The Interstate Commerce Commission seems, on the whole, to have made little headway.[1] The commodity clause of the Act of 1910, seeking to compel the railroads to divest themselves of mining properties, has already brought about a considerable corporate readjustment; but it cannot be affirmed that much real progress has resulted.[2] As for the Anti-Trust law, as will be seen in the next chapter, the government is in the mid-stream of effort at this present writing. Thus far it has succeeded only in nullifying the percentage contracts which tied up the individual operators, and in compelling the dissolution of the Temple Iron Company as a holding concern. Not merely the protection of the rear-guard of individual operators is the task in hand, — necessary as that

[1] Jones, *op. cit.*, p. 180 ff. The important Pennsylvania Public Service Commission decision of December, 1914, reducing coal rates to Philadelphia by 40 cents a ton is a hopeful sign; but then there is the usual force in Pennsylvania, of power in the county courts to reverse the commission on appeal.

[2] Railroads: Rates and Regulation, p. 552; *Quarterly Journal of Economics*, vol. XXVII, 1913, pp. 579–615; or Jones, *op. cit.*, p. 187 ff.

is in the interests of fair dealing. The problem is bigger than that of the reasonableness of rates for the carriage of coal. Final success will be achieved only when the market price of anthracite, mining included with transportation, is brought definitively under government control.

CHAPTER XVII

DISSOLUTION UNDER THE ANTI-TRUST LAW

No piece of legislation can be understood, much less appreciated, except in the light of the circumstances attending its enactment. This is particularly true of the Sherman Anti-Trust law as applied to transportation. Prior to 1887, industrial combination in the United States had scarcely passed the stage of incubation. Something was evidently doing within; but the outer shell had not yet been broken wide open. Certain combinations, notably the Standard Oil Company, had already, to be sure, grossly outraged public opinion. And it is indubitable that its offences against commercial decency were among the causes contributing to the passage of the Act to Regulate Commerce in 1887.[1] But the real outbreak of industrial combination over a wider field did not occur for some time thereafter. The later years of the decade of the '80s were associated with active investigation of industrial affairs, with

[1] Ripley, Railroads: Rates and Regulation, p. 445.

the tariff looming large in the background behind the issue of monopoly. A number of anti-trust laws were passed about this period, along with the far-reaching New Jersey statute of 1889, which empowered its corporations to hold stocks in other companies anywhere. It was undoubtedly the public feeling productive of these investigations and bits of state legislation, which also induced Congress to place the Sherman Act upon the statute books in 1890. This statute, succeeding the Act to Regulate Commerce after an interval of three years, seems to have been introduced primarily as a remedy for purely industrial evils, unassociated with railroading as such. For the Interstate Commerce Act was at the time regarded as adequate for dealing with the existing transportation abuses.

The Congressional history of the Sherman Act is important in its bearings upon the question as to the intent to bring common carriers within the prohibitions of the statute.[1] As early as 1888 Senator Sherman of Ohio introduced a bill declaring all combinations, conspiracies and agreements in restraint of trade unlawful. This died in committee. An identical bill, except for the elimination of "conspiracy" and "restraint of trade" was re-introduced in the following year. The first decisive step was taken in 1890, when the Committee on Judiciary reported to the Senate, recommending that everything except the enacting clause in the latest Sherman bill should be stricken out, and that an entirely new measure drafted by Senator Hoar of Massachusetts be substituted.[2] It was this bill which subsequently became the Sherman Act, so-called as Senator Hoar somewhat tartly observes "only because Sherman had nothing whatever to do with it."

It is uncertain whether it was originally intended to include railroads under the Anti-Trust law. The indetermination of the Congressional mind is clearly brought out in the divided

[1] Most conveniently traceable in Bills and Debates in Congress Relating to Trusts, 57th Cong., 2nd sess., Senate Doc. no. 147, I, 1903; Autobiography, by Hon. G. F. Hoar, vol. II, p. 362 *et seq.*

[2] 21 Cong. Record, pp. 2901 and 4089.

opinion of the Supreme Court of the United States in the Trans-Missouri Freight Association case.[1] Five justices declared that it was "impossible to say what were the views of a majority of the members of each house," as well as "that the debates in Congress are not appropriate sources of information for this purpose." Not satisfied with this disposition of the matter, four justices in the dissenting opinion reviewed in detail the Congressional history of the bill. Evidence was found to their satisfaction that a determined effort was made, by means of amendments proposed, to include transportation contracts or agreements, but that the effort was unsuccessful. According to this interpretation there was no purpose to interfere with the Interstate Commerce Act. These dissidents, consequently, held that all activities of common carriers should be adjudged according to the provisions of the Act to Regulate Commerce of 1887 and not by the Sherman Act at all. It is rather significant in view of this closely divided opinion, that the statute has subsequently been so broadly applied to the common carriers of the country in the series of decisions henceforward to be reviewed.

The text of the Sherman Act "To protect trade and commerce against unlawful restraints and monopolies" in the first section declares illegal:

> "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations."

The second section turns from restraint of trade to monopoly.

> "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states, or with foreign nations,"

commits a misdeameanor, punishable by fine and imprisonment. By the third section of the Act, the same prohibitions are made applicable to the territories as well as to the states.

[1] 166 U. S., 317 and 359.

The remaining clauses are unimportant for our purpose save, perhaps, the sixth which declares any proscribed property in the course of interstate transportation forfeit and defines the word "person" as including corporations. The law was indeed quite brief by comparison with the extended and elaborate Interstate Commerce Act.

As a background for the examination of the application of the Sherman Act to railroads, attention should be directed to the extreme unevenness with which that statute has been enforced by Federal executive authority. Only thus does it become apparent why combination among railroads was enabled to attain so considerable a momentum before the inhibitions of the Act were brought into play at all. The record of the different presidential administrations is illuminating. As Professor Seager observes,[1] it will now scarcely be denied that three successive presidents and five successive attorneys-general were seriously remiss in their duty. Under the administration of President Harrison to March 1893, only four bills in equity were filed, and but three indictments were returned. The succeeding term of President Cleveland, to 1897, witnessed the same number of bills with only two indictments. The disappointing outcome of the first prosecutions attempted, probably accounts in a measure for this lack of interest; although the affirmed illegality of railroad pooling somewhat relieved the monotony. The low water mark of enforcement of the Anti-Trust law was touched under President McKinley, during the four years 1897–'01. The statute was practically a dead letter so far as either railroads or industrial combinations were concerned. The artillery of the Department of Justice was, to be sure, trained upon one petty live stock combination and certain agreements among local coal dealers. But the attention of the country seems to have been fixed rather upon sowing the

[1] *Political Science Quarterly*, vol. XXVI, 1911, p. 584. The pamphlet summary of Anti-Trust Decisions, published by the Department of Justice annually, contains the record.

seeds of monopoly than upon any attempt to prepare the soil for a more healthy industrial crop.

During this long dull period, while the existence of "teeth" in the Sherman Act was so wholly unsuspected, it is not surprising that its judicial interpretation as applied to railroads occurred only in connection with pooling. As a matter of fact the great railroad combination movement did not get under way until somewhat later. Hence the distinction of applying almost the first test was reserved for the Trans-Missouri Freight Association in 1897.[1] The structure and functioning of organizations of this sort will be considered in the next chapter;[2] but, inasmuch as this first railroad decision really turned upon the question of monopoly rather than of pooling *per se* as defined in the Act of 1887, its legality may be considered as a thing quite separate and apart from its economic serviceableness. This is particularly true since the latest turn of interpretation, awaiting our analysis, which holds that legality is to be adjudged in the light of reason and not according to any absolute and arbitrary standard. As for the Trans-Missouri Freight Association proceedings, both of the lower Federal courts held that the Sherman Act had not been violated; and the Supreme Court decision, reversing these judgments, was, as we have already seen, rendered by a bare majority, four justices out of nine dissenting. The first aspect of the matter, namely as to whether the Anti-Trust law comprehended common carriers by rail, has already been touched upon; especially the strong dissenting view that in the absence of a definite application of the Anti-Trust law to railroads, inasmuch as the statute was expressed in general terms while the Act to Regulate Commerce antedating it by three years was specific, the latter exempted the carriers entirely from the drastic prohibitions against monopolistic combination.

[1] 166 U. S., 290; reprinted as 55th Cong., 1st sess., Senate Doc. no. 12; *cf.* also *Harvard Law Review*, vol. XI, 1897, pp. 80–94.

[2] Especially p. 588.

The second judicial construction of the Sherman Act for common carriers within a few months reinforced the first. The Joint Traffic Association, an agreement entered into in 1895 by thirty-two railroads operating east of Chicago, was declared unlawful in 1898.[1] This pool was attacked not only as violating the Anti-Trust law, as in the Trans-Missouri case, but also as being contrary to the Act to Regulate Commerce. An attempt was made to distinguish between this and the Trans-Missouri Freight Association case, on the ground that the latter association actually conferred power to fix rates, whereas the Joint Traffic Association merely provided for the adoption jointly of such rates as were in force. Both of the lower Federal courts once more held that such agreements were not repugnant to the provisions of the Interstate Commerce Act. But the force of the argument in the Supreme Court was directed entirely to the interpretation of the Anti-Trust law; and it was finally decided, as in the preceding case, that the agreement was in contravention of that statute.

Between the pooling decisions in 1897 and the suggested reorganization of the St. Louis Terminal Company fifteen years thereafter, despite the extraordinary activity in the field of railroad consolidation described in the preceding chapters, the Supreme Court only once passed upon the validity of attempts to substitute monopoly for competition in railroading. The one interrupting opinion is of great importance; but, before proceeding to its examination, it may not be out of place to inquire still further as to the reasons for the prolonged judicial quiescence. It is the more striking in view of the new life infused into the Sherman Act under the administration of President Roosevelt in 1901–'09. No fewer than twenty-five indictments and eighteen bills in equity were returned, by way of contrast with only five indictments and ten bills in equity during the entire three preceding presidential terms. But even greater assiduity was to characterize the administration

[1] 171 U. S., 505. Economic details, p. 589, *infra*.

of President Taft to 1913. Within a period scarcely half the length of Roosevelt's term, twenty indictments and seventeen bills attended the vigorous initiative of the Federal Department of Justice. Quite apparently it was only after the more impressive and convincing manifestations of the evil of monopoly in trade and manufacture had been disposed of, that the attorney-general was able to re-direct attention to the common carriers. It is probable, also, that the Northern Securities decision, which alone broke the long period of immunity from prosecution of the railroads, was in itself of such compelling importance that much was accomplished informally in the way of admonition and repression. The fact also deserves consideration that the peculiar interpretation placed upon the Sherman Act by President Roosevelt, inducing him to stay the original proceedings instituted in 1908 against the New Haven combination,[1] undoubtedly operated to discourage a more searching test of the law as applied to common carriers at the time.

Narrowly viewed, the Northern Securities decision in 1904[2] is significant as abruptly putting an end to the holding company as a legal instrumentality for the attainment of monopoly, and as coincidently displaying cautionary signals with regard to the possible misuse of intercorporate stock ownership. The facts in the case have already been spread upon our pages in various other connections and do not call for restatement.[3] The condemnation was explicit. "If Congress has not, by the words used in the (Sherman) Act, described this and like cases, it would, we apprehend, be impossible to find words that would describe them." For without such judicial construction "then the efforts of the national government to preserve to the people the benefits of free competition among carriers engaged in interstate commerce will be wholly unavailing, and all transcontinental lines, indeed the entire railway systems of the country, may be absorbed, merged and consolidated, thus placing the public at the absolute mercy of the holding corporation." The

[1] P. 571. [2] 193 U. S., 197. [3] P. 497, *supra*.

objection was swept aside that the prohibition of unrestricted intercorporate stock holding would be an unconstitutional infringement upon the right to do as one wills with one's property. The immediate and direct result of the decision, then, was to relegate the holding company along with the "trust" to harmless disuse. But the importance of the Northern Securities opinion does not stop here. It is even more commanding upon broad constitutional grounds. Two separate questions were treated and settled at one and the same time. The first appertained to the competing and conflicting powers of the different states with one another. The second confronted the sovereignty of the several states with that of the Federal government. It was the mere ownership by one corporation of the capital stock of another which started the trouble, to be sure; but from this kernel the controversy grew and spread until the ultimate principles of our framework of government became involved.

As to the conflicting authority of state with state, in the matter of railroad stock holdings, our preceding review of the material facts is almost self-explanatory. The state of New Jersey through its license by charter to the Northern Securities Company to hold railway stocks without let or hindrance, except for the obligation to pay taxes into the state treasury, empowered it to commit acts within the jurisdiction of a sister state which were repugnant to the laws thereof — as well as to the Federal Anti-Trust law, after which most of the state statutes were fashioned. For, in consequence of the deeply aroused public opinion throughout the Northwest, the Northern Securities Company had already been put to the test, as well in the highest state courts as in the Supreme Court of the United States, under the provisions of the Anti-Trust law of Minnesota; and the device of the holding company had thus been found to be in contravention of the terms and intent of that state statute.[1] Any state, as the opinion ran, did it so choose,

[1] *Pearsall* v. *Great Northern*, etc., 161 U. S., 646.

might submit to the existence of combination within its own limits that restrained its internal trade; but beyond that frontier it might not "project its authority into other states and across the continent." No longer could immunity by a New Jersey corporation be successfully maintained within the territory of Minnesota against the expressed will of the people of that commonwealth. The soundness of this general rule is above dispute.

Equally plain was the purport of the Northern Securities decision in its affirmation of the paramount authority of the Federal government over the several states; even in such matters of seemingly private finance as the charter right to hold stocks in their own corporations. Much depended at this point upon the nature of stock ownership, that is to say, as to whether interstate stock ownership was in reality interstate commerce. No difference of opinion is evident upon the proposal that Congress should stay its hands "to the detriment of the public because, forsooth, the corporations concerned or some of them are state corporations. . . . No such view can be entertained for a moment." But serious dissent was registered against the affirmation that stock ownership and interstate commerce were indistinguishable at law. Yet, notwithstanding the vigorous dissenting view that Congress was void of power to regulate or control the acquisition and ownership of railway stocks by the Northern Securities Company, the majority opinion to the contrary prevailed, and thus became law.

Peculiar significance in a large way also attaches to the Northern Securities decision as foreshadowing an about-face on the part of the Supreme Court in the general interpretation of the Sherman Act. Perhaps the most puzzling feature of this brief and seemingly drastic statute, as judicially construed, presents itself in this connection. Are all arrangements or practices without exception or limitation of any sort forbidden; or was it the intention merely to prohibit those which poten-

at this point was enormous. It was impracticable that each separate road should have its own Mississippi bridge. The cost was prohibitive. And ample facilities could be provided, as in fact they were, only by associated action. Besides the river as an obstacle to passage, the location of the city upon hills approaching close to the river bank, made it impossible to enter the municipal limits by rail from the west except along certain well-defined approaches. In order to cope with these physical obstacles at St. Louis, two separate bridge corporations and a ferry line cared for the necessary passage over the Mississippi; while certain other transfer and terminal companies came into being in order to provide the necessary connections into town. All of these instrumentalities in the course of time were taken over by the Terminal Railroad Association, organized in 1889. This corporation, in turn, was not independent. It was itself controlled by a nicely balanced and evenly divided stock ownership among fifteen trunk lines. The cause of complaint was the alleged inability of remaining carriers, notably the Rock Island, to obtain the most-favored-nation treatment as to rates and facilities. Admission by new-comers was rendered difficult by the charter requirement of a unanimous consent of the associated lines. It was complained that this entire arrangement was in violation of the Anti-Trust law, and in its effect was contrary to the public interest.

The Supreme Court found that the St. Louis Terminal company was in violation of the law; and undoubtedly under the earlier interpretation of the statute, as applied in the pooling cases, matters would necessarily have rested at that point. No alternative but dissolution would have remained. But a great advance is marked in the added qualification that "the violation of the statute grows out of administrative conditions which may be eliminated and the obvious advantage of unification preserved," in such a manner "as will amply vindicate the wise purpose of the statute and will preserve to the public [illegible] of great public advantage." In other words, the

attempt to reconstruct society." It only remained for the conversion of the remaining justices to take place in the next great case. Out of the confusing fogs of legal doctrine and the disturbed cross currents of interpretation of economic history, the Supreme Court at last emerged upon the broad and open sea in the great Standard Oil Company decision of 1911.[1] Dissent almost vanished. With substantial unanimity it was held unequivocally that the Anti-Trust Act was to be construed "in the light of reason." All but one member of the Court agreed that the prohibition applied only to such contracts and combinations as amounted to an unreasonable or undue restraint. All other arrangements which conduced to a smoother and more efficient conduct of business were declared lawful.

Merely to prove monopolistic intent or attainment, irrespective of its nature or quality, under all the complicated circumstances of modern industrial life, is at best a difficult task. But it is far easier than to attempt to draw the line between "good" and "bad" monopoly, actual or potential. Yet such was the obligation imposed upon itself by the Supreme Court through its new construction of the statute. The first occasion in the field of transportation was offered in complaint against the St. Louis Terminal Railroad Association. The opinion[2] clearly exhibits the advantages which may be expected to flow from an interpretation of the Anti-Trust law according to the rule of reason laid down in the Standard Oil case. For the first time one might entertain hope of constructive results to flow from the differentiation of concerted acts inimical to the public interest, from those which, rightly applied, would contribute to the public advantage. The facts were as follows: Although twenty-four railroad lines converged at St. Louis, not a single one passed through the city. About one-half of them terminated on the east bank of the river, which, once the location of a great trade by water, had now become an obstacle in the way of free intercourse by rail. The volume of traffic

[1] 221 U.S., 1. [2] 224 U. S., 383; decided April 22, 1912.

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Supreme Court of the United States, noting the economic waste and the expense and inconvenience to the public which would result from a disruption of this co-operative arrangement, tempered its findings in such a way as to make the decision in reality a victory at once for the terminal association, the railways and the people. Certain modifications of organization and practice were prescribed, as conditions necessary for the continued lawfulness of the terminal association. Among these requirements was one calling for the admission of any existing or future railways to joint ownership and control; another extended the facilities of the terminals under reasonable terms to any carriers not electing to become joint owners in the association; and a third abrogated the existing restriction of the proprietary companies to the use of the terminal company's lines. Over and above these, the Supreme Court called for the discontinuance of certain practices of charging an "arbitrary" for trans-Mississippi traffic originating within one hundred miles. These conditions, however, are merely matters of detail. Considerable dispute ensued as to particulars. For our purposes they simply serve to illustrate the manner in which a penetrating discernment may reconcile the financial and operating necessitites of the railroads with the interest of the public, in the perpetuation of such competition in service as shall make for efficiency.

Appraised both by the financial magnitude and the geographical extent of the interests concerned, the proceedings to bring about the dissolution of the Union Pacific-Southern Pacific merger probably outrank any other test likely to be applied to railroads under the Sherman Act. This combination stood for monopoly to the third power. It was the logical climax of a tendency, stayed at its height by the stern hand of the law. A repetition of the facts is unnecessary in view of their extended statement heretofore.[1] Official proceedings

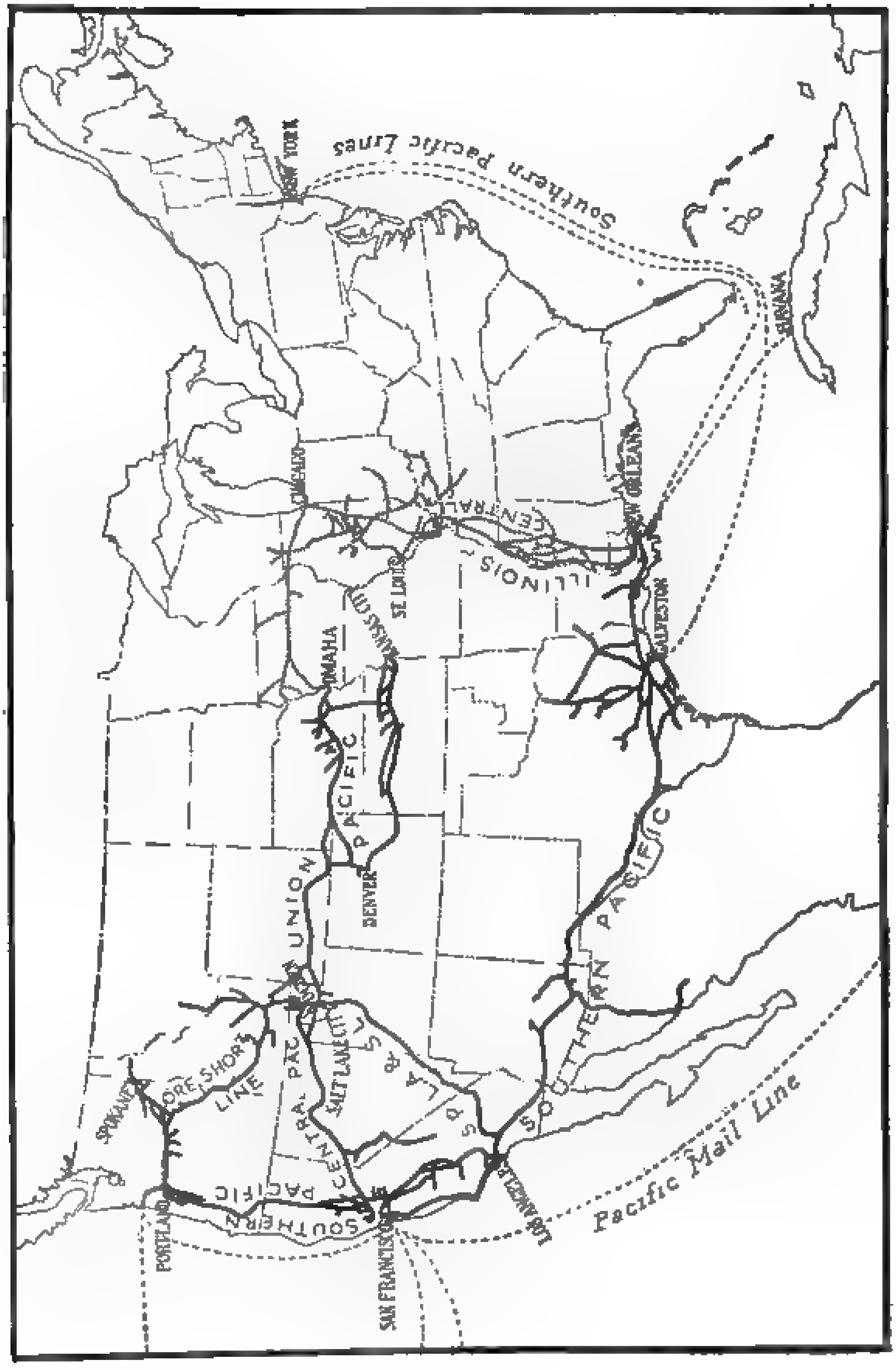
[1] Especially p. 499, *supra*.

began with the original report of the Interstate Commerce Commission in 1906. The dissolution suit, prosecuted for five years, resulted unexpectedly enough in an opinion by the Circuit Court unqualifiedly adverse to the government. Two justices held that the Union Pacific and the Southern Pacific were connecting, and only incidentally, competing lines. The third judge dissented from this view. The case then went on appeal to the Supreme Court. The final opinion,[1] considering the voluminous record, was surprisingly brief. Nor did it differ from other recent pronouncements, in confining attention largely to economic fact in preference to legal doctrine. For the occasion called merely for the application of pre-determined law to an elaborate set of material circumstances. Three questions called for answer. (1) Was there competition between the constituent railroads in the Harriman system prior to its formation? (2) Did the merger eliminate such competition, assuming that it had existed? (3) If there had been competition, and it had ceased, was its suppression brought about by unlawful means? An affirmative answer to these three queries was essential to the government's success.[2] More clearly elucidated were the subtleties of competition in railroading than in connection with any other single public proceeding in our history. It will be worth while to review them briefly in order. The accompanying map will facilitate a clear understanding of the situation.

As to competition between the transcontinental lines in the Harriman system prior to 1900, the competitive situation differed according to the route. The Southern Pacific participated unavoidably in all coast-to-coast business, whether it went direct or by way of New Orleans. Inasmuch as it held a monopoly of the entire California field, San Francisco could be reached only over its own rails. But it was evidently not

[1] 226 U. S., 61; decided Dec. 2, 1912.

[2] These details are admirably reviewed by Daggett in the *Quarterly Journal of Economics*, vol. XXVII, 1913, pp. 295–328, reprinted in our Railway Problems (rev. ed.), chap. XXII.



Map of Harriman Lines

Solid lines: Union Pacific, Southern Pacific Systems, and San Pedro Line. Dotted lines: Illinois Central System. Dash lines: Routes of water carriers operated in connection with Southern and Union Pacific.

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tially or actually were unreasonable? Is competition to be perpetuated regardless of results; or shall a sound public policy permit a distinction between those acts provocative of economy and efficiency and those others which are necessarily and always inimical to the common welfare? Throughout the extended series of decisions applying the Anti-Trust law under all sorts of circumstances and conditions, the notable change in opinion is, oddly enough, in view of the fact that this statute was originally intended to deal with business rather than transportation, most clearly discernible in the great railroad cases. As we have already seen, in the test applied in the pooling cases in 1897–'98, the Court by a bare majority held that the statute forbade all combinations of whatever sort, reasonable and unreasonable alike.[1]

In the Northern Securities case, the majority of the Court after the lapse of seven years still adhered to its original construction as to reasonableness; but Justice Brewer, in what is possibly the most significant portion of the entire decision, announced his conversion to the belief that the ruling, not only in this but in the pooling cases as well, should have condemned the arrangements at bar because they were restraints upon trade which were unreasonable *per se*, and not merely because they operated to interfere somehow or other with the free exercise of competition. The dissenting opinion of Justice Holmes also coincided with this view of the matter. The prohibitions of the law "certainly do not require all existing competitions to be kept on foot. . . . I am happy to know that only a minority of my brethren adopt an interpretation of the law which in my opinion would make eternal the *bellum omnium contra omnes* and disintegrate society so far as it could into individual atoms. If that were its intent I should regard calling such a law a regulation of commerce as a mere pretence. It would be an

[1] This development is most clearly traceable in the Standard Oil opinion of 1911, 221 U. S., 63; to which should be added the concurring opinion of Justice Brewer in the Northern Securities case, 193 U. S., 361; and the dissenting opinion, *idem*, 407 ff.

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at this point was enormous. It was impracticable that each separate road should have its own Mississippi bridge. The cost was prohibitive. And ample facilities could be provided, as in fact they were, only by associated action. Besides the river as an obstacle to passage, the location of the city upon hills approaching close to the river bank, made it impossible to enter the municipal limits by rail from the west except along certain well-defined approaches. In order to cope with these physical obstacles at St. Louis, two separate bridge corporations and a ferry line cared for the necessary passage over the Mississippi; while certain other transfer and terminal companies came into being in order to provide the necessary connections into town. All of these instrumentalities in the course of time were taken over by the Terminal Railroad Association, organized in 1889. This corporation, in turn, was not independent. It was itself controlled by a nicely balanced and evenly divided stock ownership among fifteen trunk lines. The cause of complaint was the alleged inability of remaining carriers, notably the Rock Island, to obtain the most-favored-nation treatment as to rates and facilities. Admission by new-comers was rendered difficult by the charter requirement of a unanimous consent of the associated lines. It was complained that this entire arrangement was in violation of the Anti-Trust law, and in its effect was contrary to the public interest.

The Supreme Court found that the St. Louis Terminal company was in violation of the law; and undoubtedly under the earlier interpretation of the statute, as applied in the pooling cases, matters would necessarily have rested at that point. No alternative but dissolution would have remained. But a great advance is marked in the added qualification that "the violation of the statute grows out of administrative conditions which may be eliminated and the obvious advantage of unification preserved," in such a manner "as will amply vindicate the wise purpose of the statute and will preserve to the public a system of great public advantage." In other words, the

Supreme Court of the United States, noting the economic waste and the expense and inconvenience to the public which would result from a disruption of this co-operative arrangement, tempered its findings in such a way as to make the decision in reality a victory at once for the terminal association, the railways and the people. Certain modifications of organization and practice were prescribed, as conditions necessary for the continued lawfulness of the terminal association. Among these requirements was one calling for the admission of any existing or future railways to joint ownership and control; another extended the facilities of the terminals under reasonable terms to any carriers not electing to become joint owners in the association; and a third abrogated the existing restriction of the proprietary companies to the use of the terminal company's lines. Over and above these, the Supreme Court called for the discontinuance of certain practices of charging an "arbitrary" for trans-Mississippi traffic originating within one hundred miles. These conditions, however, are merely matters of detail. Considerable dispute ensued as to particulars. For our purposes they simply serve to illustrate the manner in which a penetrating discernment may reconcile the financial and operating necessitites of the railroads with the interest of the public, in the perpetuation of such competition in service as shall make for efficiency.

Appraised both by the financial magnitude and the geographical extent of the interests concerned, the proceedings to bring about the dissolution of the Union Pacific-Southern Pacific merger probably outrank any other test likely to be applied to railroads under the Sherman Act. This combination stood for monopoly to the third power. It was the logical climax of a tendency, stayed at its height by the stern hand of the law. A repetition of the facts is unnecessary in view of their extended statement heretofore.[1] Official proceedings

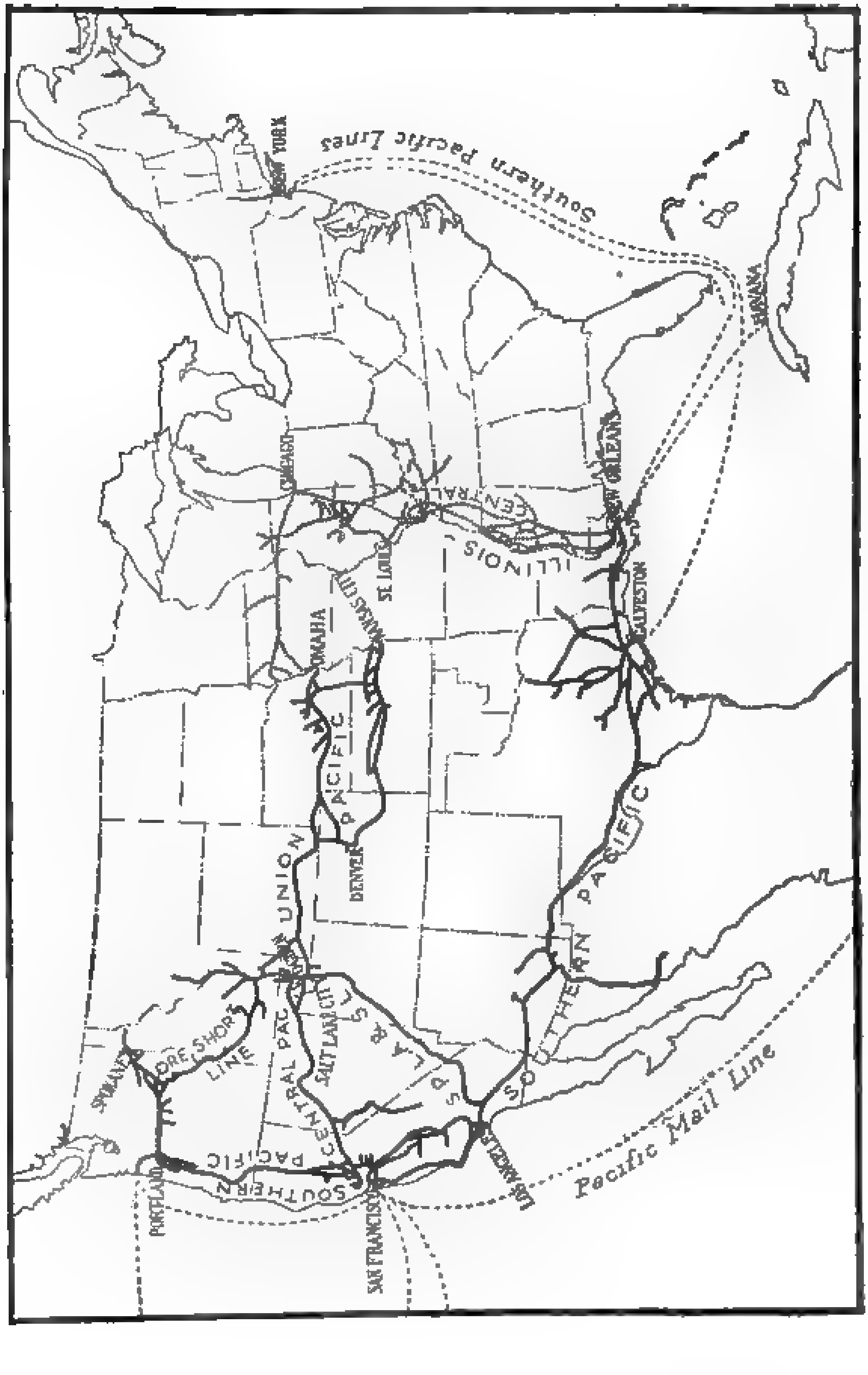
[1] Especially p. 499, *supra*.

began with the original report of the Interstate Commerce Commission in 1906. The dissolution suit, prosecuted for five years, resulted unexpectedly enough in an opinion by the Circuit Court unqualifiedly adverse to the government. Two justices held that the Union Pacific and the Southern Pacific were connecting, and only incidentally, competing lines. The third judge dissented from this view. The case then went on appeal to the Supreme Court. The final opinion,[1] considering the voluminous record, was surprisingly brief. Nor did it differ from other recent pronouncements, in confining attention largely to economic fact in preference to legal doctrine. For the occasion called merely for the application of pre-determined law to an elaborate set of material circumstances. Three questions called for answer. (1) Was there competition between the constituent railroads in the Harriman system prior to its formation? (2) Did the merger eliminate such competition, assuming that it had existed? (3) If there had been competition, and it had ceased, was its suppression brought about by unlawful means? An affirmative answer to these three queries was essential to the government's success.[2] More clearly elucidated were the subtleties of competition in railroading than in connection with any other single public proceeding in our history. It will be worth while to review them briefly in order. The accompanying map will facilitate a clear understanding of the situation.

As to competition between the transcontinental lines in the Harriman system prior to 1900, the competitive situation differed according to the route. The Southern Pacific participated unavoidably in all coast-to-coast business, whether it went direct or by way of New Orleans. Inasmuch as it held a monopoly of the entire California field, San Francisco could be reached only over its own rails. But it was evidently not

[1] 226 U. S., 61; decided Dec. 2, 1912.

[2] These details are admirably reviewed by Daggett in the *Quarterly Journal of Economics*, vol. XXVII, 1913, pp. 295–328, reprinted in our Railway Problems (rev. ed.), chap. XXII.



Map of Harriman Lines

Solid lines: Union Pacific, Southern Pacific Systems, and San Pedro Line. Dotted lines: Illinois Central System. Dash lines: Routes of water carriers operated in connection with Southern and Union Pacific.

a matter of indifference whether this traffic moved one way or the other, in view of the fact that it had but 30.1 per cent. of the total revenue from transcontinental freight *via* Ogden, whereas by the Sunset Route *via* the Gulf ports no division whatever with connecting lines was necessary. Active solicitation had ruled in consequence. Nor was the Union Pacific entirely neutral in its attitude toward coast-to-coast business, because of the choice offered at its western terminus (Ogden) of routing traffic to the northwest over its own Oregon Short Line, or of turning it over to the Central Pacific — a Southern Pacific subsidiary. Not quite so keen in the old days was the competition for traffic between interior points of the United States and the Pacific slope; but solicitation upon the basis of quality of the service and even of rates was in evidence. Space does not permit an exhaustive statement of many of the data of this sort. It may be concluded with one significant example.

A triangle will be noted upon the railroad map, with its base on the Pacific slope and its apex at Ogden. Traffic from the northwestern angle at Portland to points in Utah and Colorado had formerly moved either directly southwest or else around the remaining two sides of the triangle, both of which were in Southern Pacific hands. Reduced to equivalents in straight level haul, the direct route was 3,498 miles as compared with the round-about one aggregating 6,164 miles. This disability to the contrary notwithstanding, prior to the merger in 1901, traffic, especially lumber, had thus moved around Robin Hood's barn.[1] This could not have occurred in absence of keen rivalry. Other data of the same sort in the voluminous record established the existence of active competition at all points. The force of this showing was somewhat weakened although not squarely met, by proof that the triangular lay-out above described, had never been utilized for working business into or from California *via* the Portland gate-way and water lines to San Francisco.

[1] *Cf.* Railroads: Rates and Regulation, chap. VIII.

The Union Pacific had been less prodigal of motive power than its rival in this regard. For the Oregon Short Line seems to have refrained entirely from transcontinental business, thereby compelling the Union Pacific at all times to interchange with a direct competitor at Ogden; although it had a possible roundabout way of its own to destination.

The second essential in the government's case was proof that the Harriman merger had lessened the competition which formerly obtained. It was shown that soliciting agencies had been discontinued; operating officials consolidated; traffic diverted over new routes; competition, as of the new San Pedro short-cut from Ogden direct to Los Angeles, throttled by traffic agreements; competitive construction with the Santa·Fé in northern California stopped; and citrus fruit traffic from southern California pooled. Nor was this evidence controverted by proof of the greatly increased traffic facilities which, in the aggregate, had been added. For even $374,000,000, expended for betterment and addition within eight years, need not necessarily improve service or lower rates. As for the argument in rebuttal, that minority stock holding in the Southern Pacific by the parent company was not actual control, it deserved and was accorded little weight. The government's case concluded with the third contention that the suppression of competition above described had been brought about by unlawful means which violated the Sherman Act. Thus far matters had been relatively simple. But at this point the Court was confronted with the obligation of drawing the nice distinction between due and undue, reasonable and unreasonable restraint. One was lawful; the other was not. The issue as to the effect of an adverse decision upon what, as the carriers contended, was a fundamental right freely to buy and sell property, was dismissed rather abruptly, that point having been settled in the Northern Securities case. The Court found no difference in this regard between a holding company and direct intercorporate stock ownership. Domination, control and the power to

suppress competition, with the resulting mischief, was held to be as characteristic of one as of the other.

A notable feature of the Union Pacific dissolution, which marks a distinct advance over its predecessors, was the care bestowed upon the segregation of the great properties concerned. The government had not been altogether successful in its mandates heretofore. The Northern Securities dissolution was merely formal.[1] The Standard Oil proceedings were entirely farcical. Some improvement marks the Tobacco Trust segregation, inasmuch as its complex organization forbade so naive a decree in relief. The remedy prescribed in the St. Louis Terminal case was for the first time really constructive. The delicacy of adjustment requisite in the Union Pacific affair is exhibited by the complications which attended the various plans worked out in this instance. There were no less than four of these.[2]

The first dissolution plan proposed to distribute the Union Pacific's entire holdings of 1,266,500 shares of Southern Pacific common stock among its own shareholders *gratis*. This was vetoed by the Supreme Court, on the very proper ground that it would leave control in exactly the same hands as before, except that such control would be exercised through the medium of private persons, — dominant stockholders of the Union Pacific.[3] This was precisely what happened with the Standard Oil Company. The second plan likewise came to grief. It proposed: first, a sale of Southern Pacific stock, under privileged conditions, to all shareholders *both* of the Union Pacific and Southern Pacific companies, except, of course, to the Union Pacific corporation or the Oregon Short Line company; and secondly, with funds thus acquired, an outright purchase by the Union Pacific from the Southern Pacific of the Central Pacific link. A number of obstacles speedily developed.

[1] Condemned by the dissenting opinion, 193 U. S., 373.
[2] *Quarterly Journal of Economics*, vol. XXVIII, 1914, pp. 772–794.
[3] 226 U. S., 470.

Conflicting stipulations in the indenture of bond issues stood in the way. An almost hopeless physical entanglement of the two properties had grown up in the course of time. Thus, on San Francisco bay one company owned the piers, another the approaches and a third the ferry. But the greatest objection came from the aroused public sentiment of California, which through its railroad commission insisted upon the continuance of actual competition at all points. Thus the advantage of this plan to the Union Pacific, in that it would give the long desired access over its own rails to the coast — its alleged motive for originally taking over the Southern Pacific, be it remembered — was denied.

A third scheme was then evolved, quite different in principle. All the Southern Pacific shares were to be distributed *pro rata* among the Union Pacific stockholders, as by the first plan, but such disposition was to be coupled with disfranchisement for all purposes of control, of all holders of 1,000 shares or over. A trustee was to issue certificates of interest upon deposit of all Southern Pacific shares held by the Union Pacific, which were to carry no voting rights while so held, and which should be exchangeable for actual Southern Pacific shares only on affidavit that the applicant for exchange held less than 1,000 shares. This plan would exclude 368 selected private shareholders from further increase of their holdings, and would thus appear to have been of doubtful legality.

The final plan adopted in July was entirely different in many ways. It aimed to dissolve another similar control by the Pennsylvania Railroad of a competing line, by substituting in each case control or at least a dominant interest in merely a connecting line. The Pennsylvania exchanged 212,737 preferred shares at $80 and 212,736 common shares at par of the Baltimore & Ohio Railroad with the Union Pacific system for its 382,924 shares of the Southern Pacific at par. This left the Union Pacific with a balance of 883,576 shares of Southern Pacific stock, which balance it was authorized by the Court to

distribute to the extent of 27 per cent. of their then holdings among the other general shareholders of its own company. The expedient of issuance of certificates of interest by a trustee to be exchanged for actual stock upon affidavit that purchase was made in good faith on his own behalf, independently of the Union Pacific interests, was borrowed from the preceding plan. The price of such privileged subscription was made so favorable that the certificates when offered were subscribed for two and one-half times over. The final step was the distribution of the Baltimore & Ohio stock as a dividend to Union Pacific shareholders. Disregarding details, this amounted to about $89,000,000, the greater part of which was the profit made by fortunate investments as described heretofore.[1] This last plan, it will be observed, differed from the first two, in that it left the Central Pacific link to the coast still in the hands of the Southern Pacific. But this feature, held by the outgoing Administration as essential, was not emphasized by the new Democratic attorney-general; and as for the Union Pacific, it was deemed that a traffic alliance with the Central Pacific providing for a through route and most-favored treatment as to facilities for interchange — guaranteed in any event by the significant clause upon the subject in the Hepburn law of 1906 — would in some ways be preferable to ownership. It would be more elastic and would, moreover, as a detail of interstate commerce, be free from interference by the railroad commissions of the states concerned. Such a traffic agreement would also insure to the Union Pacific a due share of east-bound business, which otherwise, had it purchased the Central Pacific, the Southern Pacific might choose to route entirely over its own long line. Thus was the dissolution brought at last to a successful termination.

The arrangement resulting from the dissolution of the Harriman system, as ultimately put through, was defective in its failure to fulfil the original intention of Congress to en-

[1] Chap. XV, *supra*.

courage by liberal land grants and subsidies the construction of the first transcontinental railroad. For by the acts of 1862–'64 it was provided that "the whole line of said railroad . . . shall be operated and used for all purposes of communication . . . so far as the public and Government are concerned, as *one connected continuous line.*" (Our italics.) So long as the Central Pacific link remained in the hands of the Southern Pacific, therefore, the primary purpose of this historic legislation was thwarted. Reconsideration and conviction upon this point led to the institution of another suit in 1914 by the Department of Justice, this time to compel the Southern Pacific to terminate its control of the Central Pacific.[1] The logic and facts of the situation reinforced the contention of the government that the public interest, particularly of the Pacific slope, would be promoted by this means. Competition in transportation with the outside world is and has always been the supreme need of California. Yet, as we have already seen, so long as the Southern Pacific owned a continuous water and rail transcontinental line, the entire earnings of which it retained without pro-rating division, whereas on all traffic by the alternative direct route over the Central Pacific it must be contented with but a fraction of the joint through rate, just so long was it bound to encourage the southern or Sunset Route at the expense of the other. For many years, to be sure, it exchanged much business with the Union Pacific, being impelled thereto by the desire to secure reciprocal advantages; but the record in the original Harriman dissolution proceedings contains much evidence of a denial of the equal advantages and facilities called for by the Act of 1864 and even of actual discrimination against its own link in the direct route to the East.

Were the Central Pacific to be set free, as pointed out in the government's petition, it might also, by recourse to but little new construction, create a truly competitive line between San Francisco and Portland, Oregon. Yet once again the pending

[1] Original Petition, *U. S.* v. *So. Pac.*; U. S. Dist. Court, Utah, etc.

attempt of the government to secure for the Pacific slope the great commercial advantage of "one connected continuous line" was opposed by certain California shippers. They predicted that the loss of the Central Pacific would so weaken the Sunset Route as to unfit it for effective competition in future. In gaining a better direct line they feared crippling the roundabout one. The advent of the Panama Canal naturally had to be reckoned with. In the past the Southern Pacific had undoubtedly been restrained somewhat from whole-hearted competition with the all-water lines, lest it might prejudice thereby its considerable investment in the direct route *via* Ogden. Nevertheless, were this investment to be closed out, was it not equally possible that more, rather than less, vigorous efforts might be made to tempt traffic from the sea routes to the all-rail line? All things considered, both domestic and Oriental business alike, it would appear as if the probable splitting up of the Southern Pacific monopoly, followed perhaps by closer relations between the two connecting railroads which meet at Ogden, might bring to pass at last, after the lapse of half a century, a direct connected continuous line between East and West which would more closely bind California to the rest of the United States.

Close upon the heels of the decree calling for the dissolution of the Harriman system followed the opinion of the Supreme Court with reference to the so-called Anthracite Coal Trust.[1] As to the charge that a general combination existed, the Court held unanimously that the case was "barren of documentary evidence of solidarity." The Court declined, in other words, to base an opinion upon inference which, as it would appear, was sufficiently plain; but it insisted upon the proof of specific acts or transactions in pursuance of monopolistic intent. Yet the conclusion of the protracted suits was not entirely disap-

[1] 226 U. S., 324; decided Jan. 16, 1912. Eliot Jones, *op. cit.*, p. 212 *et seq.*, outlines the course of this litigation. The material facts are given in chap. XVI, *supra.*

pointing. For a second time did the holding company come under the ban of the law. The Temple Iron Company[1] was adjudged to be an unlawful combination, whereby an independent railroad had been "strangled." The Court also directed a cancellation of all of the so-called percentage contracts,[2] by means of which the allied coal roads had sought to tie the hands of independent producers in perpetuity. No opinion was expressed regarding the legality of the control of the Central of New Jersey by the Reading, or of various other similar transactions. Some advance was undoubtedly made in the direction of liberating the people of the United States from unjust extortion; and the institution of additional suits, still pending, holds out the hope that more may yet be accomplished in due time. Whether or not the existing informal understanding, based upon the mutual self-interest of the great coal roads concerned, may serve as effectively as formal or contractual arrangements, which are clearly ruled out, may not yet be predicted with certainty. A satisfactory solution of the anthracite coal problem is by no means yet in sight.

Our record under the Sherman Act concludes with the dissolution of the great New England transportation monopoly, heretofore described.[3] The best evidence that this statute is now recognized as a vital piece of legislation is afforded by the fact that in this instance protracted and expensive suits were avoided by a dissolution agreement, reached in conference between the New Haven and the Federal Department of Justice. Strong pressure undoubtedly was brought to bear. And the company yielded, not because the illegality of its combination was conceded, but only because it was feared that prolonged litigation might precipitate a receivership. It will be recalled that in 1908 the Roosevelt administration had instituted proceedings,[4] which were afterward discontinued by a formal agreement between the President and the New Haven

[1] P. 437, *supra*. [2] P. 570, *supra*. [3] P. 462, *supra*.
[4] P. 470, *supra*.

management that the latter would thereafter be a "good" monopoly. How faithfully this promise was kept has already been recited. A second bill of complaint praying for dissolution brought matters to a head in 1914, only to be withdrawn upon a formal agreement providing for the resolution of the system into its component parts.

The dissolution plan was officially summarized as follows:

"First. The Boston Railroad Holding Company [1] is a Massachusetts corporation holding a majority of the stock of the Boston & Maine Railroad, and 90 per cent. of the former's stock in turn is owned by the New Haven railroad. The charter of the holding company prohibits it from disposing of the Boston & Maine stock. The legislature of Massachusetts will be asked to remove this prohibition, and if this is done the stock of the holding company will be transferred at once to five trustees, and, after arrangements have been made to protect the minority stock of the holding company, they shall sell the Boston & Maine stock prior to January 1, 1917.

"Second. The stocks of the companies which control the Connecticut and Rhode Island trolleys will be placed in the hands of trustees — five for each State — and shall be sold within five years from July 1, 1914.

"Third. The majority stock of the Merchants & Miners Transportation Company, now held by the New Haven, will be placed in the hands of three trustees and shall be sold within three years from July 1, 1914.

"Fourth. The minority stock in the Eastern Steamship Corporation, held by the New Haven, shall be sold within three years from July 1, 1914, and in the meantine shall be deprived of voting power.

"Fifth. Whether the New Haven railroad shall be permitted to retain the sound lines will be submitted to the Interstate Commerce Commission for determination under the provisions of the Panama Canal act.

"Sixth. The Berkshire trolleys shall be sold within five years from July 1, 1914."

The financial magnitude of this operation is exhibited by the following table of the book value of the various investments of the New Haven system. The principal lesson to be deduced from this case is the force of public opinion acting through law to bring a once insolent and corruptly powerful corporation

[1] P. 415, *supra*.

under restraint. The obligation henceforth rests upon the people to exercise this power constructively in the interest of all parties concerned. It is by no means certain that all, or even

	As carried on books of	
	New Haven company	New England Navigation Company
Boston Railroad Holding Company	$29,371,165.97	
Boston & Maine R.R. subsidiary lines	1,417,216.95	
The Connecticut Company	2,125,000.00	$40,000,000.00
The Rhode Island Company	27,852,336.41	1,266,379.37
Berkshire Street Railway Company	9,809,395.58	
The Vermont Company	1,477,164.31	
Eastern Steamship Company		4,200,000.00
New York & Stamford Railway	1,395,523.40	
The Westchester Street Railroad	1,152,150.84	
Shore Line Electric Railroad		117,000.00
New England Investment and Security Company		13,631,750.00
	$74,599,953.46	$59,215,129.37

many of the units in the New Haven system were really competing rather than merely supplementary lines; still less that the welfare of New England will be promoted by a rigid insistence upon corporate disruption. Could the matter have been brought to a test as to its legality, as would surely have happened under more auspicious financial circumstances, some very pretty transportation problems would have come to light.

The true purpose of a statute is not punishment but the prevention of evil. When the force of a law has become so fully recognized that voluntary submission to it replaces recalcitrancy, its main purpose has been accomplished. Action in other parts of the country bears witness to conviction upon this point. The Missouri, Kansas & Texas in 1914, like the New Haven, came to an agreement under which a suit under the Anti-Trust law of Texas was withdrawn under promise of good behavior. This paved the way for the railroad to rehabilitate and even to consolidate its properties lawfully. The

withdrawal from the anthracite coal combination of the Pennsylvania Railroad; its disposition of investments in competing trunk lines; the consolidation policy of the New York Central;[1] the close scrutiny to which intercorporate relations are everywhere else being subjected; all alike demonstrate that the avowed purpose of the people to perpetuate railroad competition is accepted as an established fact. It is next incumbent upon us to subject this policy to examination in the few pages which remain.

[1] P. 416, *supra*.

CHAPTER XVIII

POOLING AND INTER-RAILWAY AGREEMENTS

Although for almost a generation, pooling among railroads has been prohibited by act of Congress, the reiteration by the people and by the courts interpreting their will, of the principle that competition must be maintained at all hazards as a safeguard of popular rights, warrants discussion of what might otherwise, perhaps, be regarded as an obsolete topic. The enforced dissolution of the great railway combinations which, whatever their faults, have certainly contributed materially to aid the government in the enforcement of equal and stable rates, can have but one result; namely, that competition will be keener in future than in the recent past. That it will take place under governmental scrutiny and supervision does not alter this plain fact. The course of interpretation of the Anti-Trust Act, trending to the acceptance of the view, not that all contracts in restraint of trade but only those which

are unreasonable are prohibited, may conceivably open the way to judicial approval of the right sort of traffic arrangements. But, after all, such action would be negative. A constructive policy, safe enough now that Federal administrative control is indubitably assured, might better be fashioned after the English plan, whereby agreements between carriers are actually enforceable at law, subject always to the sanction of the proper administrative authority.

Any contract, agreement or combination between different and competing railroads through which competition is suppressed either in rates or service constitutes a pool.[1] The means or agency is immaterial whereby the result of destroying such rivalry as would otherwise exist between the carriers is brought about. In other words, it is unimportant: whether this be done by joint action of an association or committee representing the roads in interest; whether such power, — in the matter of routing for example, — be absolutely and unqualifiedly left to the will of an initial carrier; whether the agreement divides the traffic quantitively; or whether, even, the competitive business is apportioned territorially or according to its nature. Equally without significance, especially in the eye of the law, is the purpose or intent of the agreement. It may be made solely with reference to the maintenance of equal and stable rates; or it may contemplate an actual increase

[1] On pooling consult the following: 1876, Report on Internal Commerce of the United States, 44th Cong., 2nd sess., H. R. Exec. Doc. no. 46, pt. 2: 1886, Senate (Cullom) Committee Report, Testimony: 1890, Report, Transportation Interests of United States and Canada, 51st Cong., 1st sess., Senate rep. no. 847: 1892, 6th Ann. Rep., I. C. C., pp. 215–265: 1897–'98, Joint Traffic Association, 55th Cong., 1st sess., Senate Doc. no. 39, 55th Cong., 2nd sess., Senate Doc. no. 133; and U. S. Supreme Court records 171 U. S., 505, and 166 U. S. 290. The file of I. C. C. Annual Reports, especially 1897–'98, as also those on Internal Commerce; and the numerous pamphlets of Albert Fink and G. R. Blanchard, mainly included in the Catalogue of the Bureau of Railway Economics, abound in concrete data, as well as discussion. Certain parts, elaborated and brought down to date, of my report on the subject for the U. S. Industrial Commission, vol. XIX, 1902, pp. 329–350, have also been incorporated herein.

therein. The law has pronounced such differences immaterial; inasmuch as it is the existence and not the actual exercise of power which transgresses the limits of lawfulness. It is important to keep these distinctions clearly in mind in drawing the line between such concerted activities as seek to apply the pooling principle, and the many other functions performed by car-service and traffic associations. Agreements concerning the formation of through lines, interchange of business, the use of cars, mutual accounts and classification, and rules for the handling of traffic; none of these are pools in any sense. Many services of this sort have been at times rendered by associations which were at the same time engaged in pooling traffic; but they belong in an entirely different category in the contemplation of the law.

Agreements for the elimination of competition, that is to say pools, are of four sorts. The simplest is a straight-away physical division of business. This is known as a traffic pool. Under such an arrangement one road is guaranteed, let us say, a certain percentage of business. If the percentage for any reason falls below this allotment, enough tonnage is diverted from other roads which enjoy an excess over their proper share. The principal objection to this form in the old days was that it necessitated the diversion of freight from one road to another, thereby often running counter to the wish of the shipper. The provision of the Act of 1910 permitting the shipper to name his route[1] definitely closed the door to further arrangements of this sort. But, in any event, experience shows that the amount of such variation from the customary percentages is usually very small; and that there is generally enough footloose freight to obviate this difficulty.[2] Nevertheless, the railroads in practice generally found it better to organize upon another basis.

[1] Railroads: Rates and Regulation, p. 572.

[2] *Cf.* the Senate Report on Pools, 1897, p. 39, and Testimony of Fink, Cullom Committee, p. 119.

A money pool, the second type of agreement for division of business, proceeded upon the basis of a mutual guarantee to each railroad of a certain percentage of the total revenue accruing, either in gross or in net, from the transaction of the business. Under this plan either gross or net earnings, as the case might be, were divided in certain shares, entirely irrespective of the amount of business which happened to pass over the lines concerned. This, of course, would be unfair unless some allowance were made for the actual expense of conducting transportation, when the traffic over a particular road happened to be greater than was its particular allotment of earnings. Consequently, it was often customary to allow each road to handle all the traffic which came to it naturally; but to provide that after the deduction of a certain proportion, usually 40 or 50 per cent. for actual outlay, the remainder in excess of its accrued proportion should be paid over to other roads whose proportion of business carried during the period happened to fall below their allotment. In order to accomplish this result without friction, the roads sometimes deposited a certain sum of money with the chairman, subject to his draft. If from his periodical reports he found that the percentages allotted varied somewhat from the actual percentages which happened to go by the different routes at that time, he made good the difference by check. Of course it was important, in making the allowance out of the income for an abnormal proportion of business, to see to it that the percentage allowed for conducting transportation should not be large enough to offer any possible inducement to an unscrupulous road to carry this extra business for even the moiety of rate which might remain. In the old Southern Railway and Steamship Association, for instance, at one time only 20 per cent. of the gross receipts was allowed for hauling an excess over the allotted amount, for the expense of hauling. The remaining 80 per cent. was to be turned into a pool, to be divided among the roads which had received more than their fair share.

The particular difficulty with money pools exists in the disinclination of the roads to pay over money which, in a sense, it seems as if each had earned, having actually transported the freight. The deposit of a certain balance in advance, however, as above described, has, in experience, helped to mitigate this defect. Experience seems to show that when percentages are agreed upon for a definite period there is always a temptation for each road to endeavor to increase that percentage of its traffic actually carried, in order to prove its competence for a larger share in subsequent apportionments, when the existing agreement shall expire. In other words, rate cutting, special favors and concessions may still exist, not for the sake of their immediate advantage but in order to affect the division in future agreements. Moreover, money pools are liable to a very peculiar abuse, which, from a public point of view, renders them far less desirable than traffic pools. It is always possible that money payments may degenerate into a mere subsidy to weak roads, or a premium for virtuous conduct to unscrupulous ones. As instances of this possible abuse, the payment of almost $900,000 to the Panama Railroad prior to 1892, and also the payment of $500,000 annually which was made for some years to the Erie Railroad, may be mentioned. In each of these cases the expressed purpose of the subsidy or "space rental" was practically to induce those carriers to refrain from soliciting business actively — action which, on the part of circuitous or irresponsible carriers, almost always means, in practice, to abandon that business.[1]

A third type of pool is either a division of the field or of the business according to its nature. Such an agreement differs, however, from the foregoing ones in the absence of any continuing agency or machinery for putting it into effect. The negative act of abstention from construction or solicitation

[1] Proc. Board of Arbitration on Canadian Pacific Differentials, Oct. 12, 1898, pp. 31 and 164; also 51st Cong., 1st sess., Senate rep. 847, pp. 44, 74, 121 and 216.

of traffic of a certain kind, is relied upon to put an end to such rivalry as might otherwise exist. The experience of Texas and Colorado in the early '80s will soon be given in our historical review.[1] The attempt to create a monopoly of the New England field in recent years has also led to similar agreements for partition of the field. In essence there is no substantial difference between the Gould-Huntington arrangements a generation ago and the Boston & Maine-New Haven contract of 1893 to divide this rich territory.[2] Nor did this differ from the 100-year traffic agreement of 1902 between the Los Angeles & San Pedro and the Southern Pacific or the other monopolistic acts of the Harriman system.[3]

Four varieties of pools have been mentioned. The last would be constituted by a mere agreement of the parties in interest to maintain the established rates. Such a promise is characteristic of most of the foregoing plans. It is, perhaps, rather a statement of purpose than anything else. But it might become the decisive factor in a community-of-interest plan or other arrangement of the sort.

The pooling principle in action may be best illustrated by means of a concrete example. The opposite table shows the number of tons of dead freight forwarded from Chicago during a certain period over eight different trunk lines. Consideration of these statistics shows that within variations of a few per cent. the proportions of freight carried by the different roads remain fairly constant.[4] At this particular time, to be sure, the charge was freely current that the Chicago & Grand Trunk was increasing its percentage at the expense of some of the more direct lines; but, taking a series of years and under normal conditions, such percentages do not vary

[1] P. 584, *infra*.

[2] Text in Bill in Equity, Original Petition of the U. S. in the New Haven Dissolution Suit of 1914, pp. 31 and 103.

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EAST-BOUND DEAD-FREIGHT TONNAGE FORWARDED FROM CHICAGO, ETC.

[Report Transportation Interests of the United States and Canada, 51st Cong., 1st sess., Senate rep. no. 847, p. 588.]

Roads	1886		1887		1888		First half of 1889	
	Tons.	*P. ct.*	*Tons.*	*P. ct.*	*Tons.*	*P. ct.*	*Tons.*	*P. ct.*
Chicago and Grand Trunk	242,901.59	12.9	301,895.19	14.0	400,651.37	16.9	214,462.00	19.3
Michigan Central	368,688.50	19.7	363,862.93	16.4	377,107.72	15.9	186,324.00	16.8
Lake Shore and Michigan Southern	315,520.90	16.9	360,896.22	16.3	399,035.98	16.9	162,461.00	14.7
Pittsburg, Fort Wayne and Chicago	369,920.77	19.7	480,022.18	21.7	448,578.28	18.9	295,278.00	18.5
Chicago, St. Louis and Pacific	229,778.25	12.3	226,985.85	10.2	218,345.33	9.2	93,197.00	8.4
Baltimore and Ohio	166,929.14	8.9	238,894.16	10.7	283,964.05	11.9	136,916.00	12.3
New York, Chicago and St. Louis	159,647.58	8.5	201,149.07	9.1	222,555.18	9.6	109,880.00	9.9
Cincinnati, Indianapolis, St. Louis, and Chicago	19,001.17	1.1	36,387.19	1.6	16,650.89	0.7	1,635.00	0.1
Total	1,872,387.90	100.0	2,210,042.78	100.0	2,366,888.80	100.0	1,111,153.00	100.0

greatly. They are determined by fixed conditions, such as the general reputation of the road for promptness and dispatch, its fairness in adjusting damages, etc. In other words, business has become distributed, as between these lines, to a large degree in a definite proportion. This fact may be further emphasized by comparing the table above with the table at page 591, showing the apportionment of similar tonnage in 1896. Assuming, then, that there is a certain natural division of tonnage on the basis of facilities and reputation, it is obvious that the granting of special rebates and favors by any one of the roads might temporarily increase its proportion of the traffic; just as the Grand Trunk seems to have increased its proportion during these $3\frac{1}{2}$ years from about six per cent. Such an increase, disproportioned to any development in the facilities of the road itself during this short period, would probably mean the prevalence of special rebates and favors in order to divert traffic over that particular line. The incentive was naturally strong on the part of freight agents, each of whom is seeking to establish a record; and, of course, the shippers were always on the lookout for traffic officials whom they could induce to help them privately. In the absence of any agreement among the roads themselves, it is apparent that competition, as between these eight trunk lines, might

easily result in an entire disorganization of any established rate basis. The more nearly bankrupt and consequently desperate, or the weakest and most circuitous, route was enabled by cutting rates upon its small proportion of traffic to inflict enormous damage upon the standard, first-class lines. A railroad pool, under such circumstances, is nothing more nor less than an agreement among the several parties concerned, that each will accept a certain percentage of the entire traffic, which shall be guaranteed to it by the other roads. This guarantee obviates at once the necessity for urgently soliciting business by cutting rates; and at the same time it nullifies the threat of the large shipper to divert his tonnage from a road which refuses to grant him such concessions as he sees fit to ask. Such, in essence, is the nature of a pooling contract. It has absolutely nothing to do, in itself, with the establishment of rates. To be sure, the purpose of the agreement is to maintain rates at a definite figure; but the amount of those rates, as thus fixed, may be determined by other causes, such as water or foreign competition, which are entirely beyond the control of the roads themselves. In fine, the purpose of a pool need by no means be protection against the public. The prime motive in the old days was protection of one railroad against one another.

Historically, pooling seems to have been not uncommon between water lines in the early days. The court records as early as 1847 bring to light a number of such agreements. Thus in 1842 the canal-boat lines in New Jersey formed an association, fixed rates and divided earnings and made deposits to cover balances due. This was evidently a strict money pool. One year later 35 lines, owning 400 canal boats, entered into contracts concerning rates which came before the courts in 1848. Steamship lines in New York, forbidden to combine under a statute of 1854, resorted to pooling for the elimination of competition. The Hudson river boats in 1876 were thus

operated under a joint committee providing for a division of gross earnings. Steamship pools on the Kentucky river and between the lines to Cuba existed in 1885–'86. Such agreements were doubtless the outcome of the same necessity which still makes such contracts so prevalent among steamship companies the world over.[1]

The earliest railroad pools, tentative in character, were fashioned to cope with relatively simple traffic conditions. One of the earliest was organized in 1870 in order to arrange for a division of their Chicago-Omaha business between the three principal granger roads. Each agreed to limit its participation to one-third of the tonnage. These percentages were maintained throughout the agitated period of the '70s and undoubtedly conduced materially thereby to stability of rates. From this simple agreement afterward developed the Western Freight Association in 1884. The Boston-Portland business seems to have been apportioned in 1874, 40 per cent. of earnings being divided equally, with retention of the balance. This was ended by a New Hampshire statute three years later. In 1879 the lines from Boston to New York entered into a 99-year pool. Probably the earliest persistent attempt to fix rates upon a monopolistic basis was the combination of the anthracite carriers with respect to tidewater business in 1873.[2] This agreement lasted for three years, being made effective under penalty of withholding rolling stock. For two years after 1876 the pool lapsed; but it was renewed in 1878 for a year, only to be succeeded thereafter by four years of relatively open market. A definite pool was once more set up in 1884 and lasted with varying success for about seven years, despite the legislative prohibition of the Act of 1887. Stability of charges between Chicago and St. Louis was also promoted after 1876 for a few years by the Southwestern

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Railway Rate Association. In the early '80s, also, two somewhat different attempts to eliminate competition were made in the western and southern fields. Colorado was partitioned by a tripartite agreement between the three principal railroads, local and also Missouri river business being apportioned.[1] The territory of Texas was allotted in sections one year later, — the northern half to the Gould roads and the southern to the Huntington system.[2] These agreements, together with the Ohio river pool in 1883,[3] comprehend most of the earlier experimentation in this line, with the exception of the great co-operative movement in the South.

The most efficient railroad pool in the United States, largely owing to the genius of Albert Fink as manager, prevailed in the southern states during the period between 1874 and the enactment of the Interstate Commerce law in 1887.[4] Linking up the through routes to the Middle West entirely changed the nature of competition. Up to 1860 each road had kept its equipment upon its own lines, all traffic being transferred at termini. When through lines were opened, each road began to work for the whole haul of which it formed a part. But this condition arose much later in the southern states than elsewhere. Sharp competition first appeared after prostration by the Civil War, when it was soon discovered that there were more roads than available traffic. Agreements to restore and maintain charges alternated for a time with the most destructive rate wars. It has been estimated that gross earnings were oftentimes but little more than half what the published rates should have yielded. Bankruptcy and ruin in railroad affairs were wide-spread. Permanent

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CHAPTER XVIII

POOLING AND INTER-RAILWAY AGREEMENTS

ALTHOUGH for almost a generation, pooling among railroads has been prohibited by act of Congress, the reiteration by the people and by the courts interpreting their will, of the principle that competition must be maintained at all hazards as a safeguard of popular rights, warrants discussion of what might otherwise, perhaps, be regarded as an obsolete topic. The enforced dissolution of the great railway combinations which, whatever their faults, have certainly contributed materially to aid the government in the enforcement of equal and stable rates, can have but one result; namely, that competition will be keener in future than in the recent past. That it will take place under governmental scrutiny and supervision does not alter this plain fact. The course of interpretation of the Anti-Trust Act, trending to the acceptance of the view, not that all contracts in restraint of trade but only those which

are unreasonable are prohibited, may conceivably open the way to judicial approval of the right sort of traffic arrangements. But, after all, such action would be negative. A constructive policy, safe enough now that Federal administrative control is indubitably assured, might better be fashioned after the English plan, whereby agreements between carriers are actually enforceable at law, subject always to the sanction of the proper administrative authority.

Any contract, agreement or combination between different and competing railroads through which competition is suppressed either in rates or service constitutes a pool.[1] The means or agency is immaterial whereby the result of destroying such rivalry as would otherwise exist between the carriers is brought about. In other words, it is unimportant: whether this be done by joint action of an association or committee representing the roads in interest; whether such power, — in the matter of routing for example, — be absolutely and unqualifiedly left to the will of an initial carrier; whether the agreement divides the traffic quantitively; or whether, even, the competitive business is apportioned territorially or according to its nature. Equally without significance, especially in the eye of the law, is the purpose or intent of the agreement. It may be made solely with reference to the maintenance of equal and stable rates; or it may contemplate an actual increase

[1] On pooling consult the following: 1876, Report on Internal Commerce of the United States, 44th Cong., 2nd sess., H. R. Exec. Doc. no. 46, pt. 2: 1886, Senate (Cullom) Committee Report, Testimony: 1890, Report, Transportation Interests of United States and Canada, 51st Cong., 1st sess., Senate rep. no. 847: 1892, 6th Ann. Rep., I. C. C., pp. 215–265: 1897–'98, Joint Traffic Association, 55th Cong., 1st sess., Senate Doc. no. 39, 55th Cong., 2nd sess., Senate Doc. no. 133; and U. S. Supreme Court records 171 U. S., 505, and 166 U. S. 290. The file of I. C. C. Annual Reports, especially 1897–'98, as also those on Internal Commerce; and the numerous pamphlets of Albert Fink and G. R. Blanchard, mainly included in the Catalogue of the Bureau of Railway Economics, abound in concrete data, as well as discussion. Certain parts, elaborated and brought down to date, of my report on the subject for the U. S. Industrial Commission, vol. XIX, 1902, pp. 329–350, have also been incorporated herein.

therein. The law has pronounced such differences immaterial; inasmuch as it is the existence and not the actual exercise of power which transgresses the limits of lawfulness. It is important to keep these distinctions clearly in mind in drawing the line between such concerted activities as seek to apply the pooling principle, and the many other functions performed by car-service and traffic associations. Agreements concerning the formation of through lines, interchange of business, the use of cars, mutual accounts and classification, and rules for the handling of traffic; none of these are pools in any sense. Many services of this sort have been at times rendered by associations which were at the same time engaged in pooling traffic; but they belong in an entirely different category in the contemplation of the law.

Agreements for the elimination of competition, that is to say pools, are of four sorts. The simplest is a straight-away physical division of business. This is known as a traffic pool. Under such an arrangement one road is guaranteed, let us say, a certain percentage of business. If the percentage for any reason falls below this allotment, enough tonnage is diverted from other roads which enjoy an excess over their proper share. The principal objection to this form in the old days was that it necessitated the diversion of freight from one road to another, thereby often running counter to the wish of the shipper. The provision of the Act of 1910 permitting the shipper to name his route[1] definitely closed the door to further arrangements of this sort. But, in any event, experience shows that the amount of such variation from the customary percentages is usually very small; and that there is generally enough footloose freight to obviate this difficulty.[2] Nevertheless, the railroads in practice generally found it better to organize upon another basis.

[1] Railroads: Rates and Regulation, p. 572.

[2] *Cf.* the Senate Report on Pools, 1897, p. 39, and Testimony of Fink, Cullom Committee, p. 119.

A money pool, the second type of agreement for division of business, proceeded upon the basis of a mutual guarantee to each railroad of a certain percentage of the total revenue accruing, either in gross or in net, from the transaction of the business. Under this plan either gross or net earnings, as the case might be, were divided in certain shares, entirely irrespective of the amount of business which happened to pass over the lines concerned. This, of course, would be unfair unless some allowance were made for the actual expense of conducting transportation, when the traffic over a particular road happened to be greater than was its particular allotment of earnings. Consequently, it was often customary to allow each road to handle all the traffic which came to it naturally; but to provide that after the deduction of a certain proportion, usually 40 or 50 per cent. for actual outlay, the remainder in excess of its accrued proportion should be paid over to other roads whose proportion of business carried during the period happened to fall below their allotment. In order to accomplish this result without friction, the roads sometimes deposited a certain sum of money with the chairman, subject to his draft. If from his periodical reports he found that the percentages allotted varied somewhat from the actual percentages which happened to go by the different routes at that time, he made good the difference by check. Of course it was important, in making the allowance out of the income for an abnormal proportion of business, to see to it that the percentage allowed for conducting transportation should not be large enough to offer any possible inducement to an unscrupulous road to carry this extra business for even the moiety of rate which might remain. In the old Southern Railway and Steamship Association, for instance, at one time only 20 per cent. of the gross receipts was allowed for hauling an excess over the allotted amount, for the expense of hauling. The remaining 80 per cent. was to be turned into a pool, to be divided among the roads which had received more than their fair share.

The particular difficulty with money pools exists in the disinclination of the roads to pay over money which, in a sense, it seems as if each had earned, having actually transported the freight. The deposit of a certain balance in advance, however, as above described, has, in experience, helped to mitigate this defect. Experience seems to show that when percentages are agreed upon for a definite period there is always a temptation for each road to endeavor to increase that percentage of its traffic actually carried, in order to prove its competence for a larger share in subsequent apportionments, when the existing agreement shall expire. In other words, rate cutting, special favors and concessions may still exist, not for the sake of their immediate advantage but in order to affect the division in future agreements. Moreover, money pools are liable to a very peculiar abuse, which, from a public point of view, renders them far less desirable than traffic pools. It is always possible that money payments may degenerate into a mere subsidy to weak roads, or a premium for virtuous conduct to unscrupulous ones. As instances of this possible abuse, the payment of almost $900,000 to the Panama Railroad prior to 1892, and also the payment of $500,000 annually which was made for some years to the Erie Railroad, may be mentioned. In each of these cases the expressed purpose of the subsidy or "space rental" was practically to induce those carriers to refrain from soliciting business actively — action which, on the part of circuitous or irresponsible carriers, almost always means, in practice, to abandon that business.[1]

A third type of pool is either a division of the field or of the business according to its nature. Such an agreement differs, however, from the foregoing ones in the absence of any continuing agency or machinery for putting it into effect. The negative act of abstention from construction or solicitation

[1] Proc. Board of Arbitration on Canadian Pacific Differentials, Oct. 12, 1898, pp. 31 and 164; also 51st Cong., 1st sess., Senate rep. 847, pp. 44, 74, 121 and 216.

of traffic of a certain kind, is relied upon to put an end to such rivalry as might otherwise exist. The experience of Texas and Colorado in the early '80s will soon be given in our historical review.[1] The attempt to create a monopoly of the New England field in recent years has also led to similar agreements for partition of the field. In essence there is no substantial difference between the Gould-Huntington arrangements a generation ago and the Boston & Maine-New Haven contract of 1893 to divide this rich territory.[2] Nor did this differ from the 100-year traffic agreement of 1902 between the Los Angeles & San Pedro and the Southern Pacific or the other monopolistic acts of the Harriman system.[3]

Four varieties of pools have been mentioned. The last would be constituted by a mere agreement of the parties in interest to maintain the established rates. Such a promise is characteristic of most of the foregoing plans. It is, perhaps, rather a statement of purpose than anything else. But it might become the decisive factor in a community-of-interest plan or other arrangement of the sort.

The pooling principle in action may be best illustrated by means of a concrete example. The opposite table shows the number of tons of dead freight forwarded from Chicago during a certain period over eight different trunk lines. Consideration of these statistics shows that within variations of a few per cent. the proportions of freight carried by the different roads remain fairly constant.[4] At this particular time, to be sure, the charge was freely current that the Chicago & Grand Trunk was increasing its percentage at the expense of some of the more direct lines; but, taking a series of years and under normal conditions, such percentages do not vary

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Historically, pooling seems to have been not uncommon between water lines in the early days. The court records as early as 1847 bring to light a number of such agreements. Thus in 1842 the canal-boat lines in New Jersey formed an association, fixed rates and divided earnings and made deposits to cover balances due. This was evidently a strict money pool. One year later 35 lines, owning 400 canal boats, entered into contracts concerning rates which came before the courts in 1848. Steamship lines in New York, forbidden to combine under a statute of 1854, resorted to pooling for the elimination of competition. The Hudson river boats in 1876 were thus

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success was finally wrought out of such chaos by the first General Commissioner, who perfected an agreement in 1875 which proved lasting.

At first an annual convention was held, to which each railroad in the southern states sent a representative. But after 1883 it was found more effective to concentrate power in the hands of an executive committee made up of the managers of the principal lines concerned. The active administrative head, however, was known as the Commissioner, who kept in touch with constituent companies by means of printed letters of instruction. This file constitutes the permanent record of the association's activities.[1]

The first task was to bring about a permanent division of business at the most competitive points. Atlanta, Augusta and Macon were first chosen in 1875. Each road was expected to conform to its agreed proportion; but where deviation occurred, one-half cent per ton mile was allowed for any excess. This was supposed to cover the bare expense of carriage; but not to yield a profit. Everything over and above this amount was transferred through the Commissioner to the credit of other roads carrying less than their agreed proportions. The greatest difficulty was in securing settlement of these balances. But it was finally arranged to make a deposit in proportion to the amount of business. This seems to have worked fairly well.

At the outset, the Southern Railway and Steamship Association included only eastern tonnage; and it was not until 1886 that traffic with the western states was brought under control. The plan until 1886, moreover, was confined to freight traffic alone. The first business was to keep a strict account of the nature of the business. This service was performed by an auditor. Tables were circulated monthly, showing the exact division of tonnage to all of the important points and for different classes of commodities. Full details as to weight, gross and

[1] Known as Circular Letters, S. R. and S. A., 1875.

net revenue, and the agreed and actual percentages were fully set forth. Each manager from this data was thus in a position to see just how much business there was moving and what the status of his own railroad was. The central office also acted as a clearing-house for the settlement of accounts. An elaborate system of deposits came to be arranged, which in the main covered all balances due. In addition the Commissioner was given the right to examine the books of the constituent railways. In a number of instances breaches of good faith were detected and penalized.

The primary office of the association was to maintain rates. An important function in this connection was the detection of irregular practices in classification, weighing, etc. In one period of seven months, for example, upwards of 10,000 shipments were corrected, resulting in a substantial increase in revenue. But even more important was the fact that the presence of inspectors discouraged such frauds by all parties concerned.

The most difficult task, one which was referred to the so-called Rate Committee, was the division of business. This, of course, had to be readjusted from time to time. As new roads were built or old lines offered greater facilities, the situation had to be gone over in detail. The Rate Committee was also charged with matters of classification and the fixing of differentials between neighboring cities. The object in making these last was, of course, to place all cities similarly situated on a parity. The principal southern towns were and still are grouped as respects rates from outside territory. Determination and readjustment of these groups was a very important matter. The Rate Committee also had to make arrangements with lines outside the southern states. Those of them which refused to work in harmony were in practice boycotted. Even more troublesome was the competition of river steamboats. Differentials between neighboring cities might be wide enough apart to allow these lines to cut rates. Next to the

work of the general Commissioner and the Rate Committee, the Board of Arbitration deserves mention. The primary function of this agency was to pass upon disputes as to the division of competitive business. When the Rate Committee could not settle an affair, it had to go over to this judicial body. Questions, also, relating to rates and differentials often had to be referred to the Arbitration Board. Originally these matters were settled by an outside referee, but gradually the practice of choosing three arbitrators was adopted. Many matters now settled by the Interstate Commerce Commission, such as the definition of initial and terminal roads or matters of classification, were dealt with.

After 1887, with the prohibition of pooling, the Southern Railway and Steamship Association was considerably modified in form. All division of traffic was stopped, as well as the practice of deposits for settlement of accounts. But daily and monthly reports of business were continued. The association was recognized by the Interstate Commerce Commission and appeared officially before it in a number of instances. So far as it might, its main object remained the saving of revenue by maintenance of rates. The association undoubtedly greatly benefited the railways of the South. It probably was more serviceable to the weak than the strong lines. This is always the case. From the public point of view the greatest advantage was the stability of rates and the detection of rebating. It certainly does not appear that the effect of the association was to prevent general reductions, for the downward trend of charges was notable throughout the life of the association. Most important of all, as bearing upon the policy of the future, seems to be the fact that this association maintained rather than suppressed competition. It did, indeed, limit competition; but restricted it to a healthy and normal sort. Each road still attempted to get as much business as could be obtained openly and fairly at the established rates. In this regard the Southern Railway and Steamship Association

certainly performed a great public service under the most trying circumstances. As an efficient regulator of rates, the association was greatly weakened by the prohibition of pooling in 1887, although for a few years it discouraged rate wars in a halting way by the imposition of fines. But the depression of 1893, with its incident temptation to rate cutting, proved too discouraging for it to withstand, so that dissolution then ensued. There still exist in the southern states a number of rate associations of one sort and another. But none of them attempt anything like an actual pooling of traffic.

The northern trunk-line pool had its origin in the railroad presidents' Saratoga compact of 1876.[1] This resulted from the panic of 1873 and the other attendant circumstances leading up to the rate wars of the latter half of the '70s.[2] The first actual agreement to pool rates was entered into in 1877. It was distinctively a traffic pool, confined to west-bound business, with diversion of freight in order to make good the allotted percentages. Two years later, the steadying results of this organization led to the establishment of the Joint Executive Committee of 1879. With varying fortunes, determined as well by bad faith on the part of the railroads as by popular hostility, the trunk-line pools lasted under various forms until 1887, when they disappeared from public view under the ban of the Interstate Commerce law. This trunk-line organization, as managed by Albert Fink, reached a high standard of efficiency, based upon the experience of the preceding decade both here and in the South. It was a money pool, involving monthly settlements and deposits as a guarantee for good faith.

An immediate readjustment to suit the changed conditions was necessitated by the enactment in 1887 of the law pro-

[1] 1st Ann. Rep. on Internal Commerce 1876 and subsequent file, p. 51; N. Y. Hepburn Committee Report. Also Cullom Committee Report, 1886, for statistical data; and Rep. Trans. Interests U. S. and Canada, 1890.

[2] Railroads; Rates and Regulation, p. 22. Also Daggett, Railroad Reorganization, index.

hibiting pooling contracts between common carriers.[1] The trunk lines immediately acquiesced in the provisions of the Interstate Commerce Act by entering into new articles of association on the 7th of April, 1887. They seem to have adopted, in place of the old division of traffic or earnings, a system of differentials, by which the weaker roads were enabled to secure their proportion of business by making a fixed concession in rates. The Grand Trunk Railway of Canada was not a party to this agreement. It immediately proceeded to take advantage of the relaxation of joint control, by cutting rates upon dressed-beef traffic from Chicago east. This action was immediately met by the standard all-rail lines; and a serious rate war resulted, which entirely disorganized the situation for some months. For a part of this time the Grand Trunk road seems to have carried in 1887, about 47 per cent. of all the dressed beef transported. The outcome of this ruinous contest was a new agreement in 1889, to which the Grand Trunk Railway became a party. This pool, being more comprehensive, seems to have conduced to stability in rates, so that for two or three years conditions were fairly satisfactory. The agreement seems to have entailed the payment of a practical subsidy to such roads as the Erie, which in two years from April, 1889, received about $530,000 per annum as a premium for virtue. This actual money payment seems to have taken the place of an earlier agreement by which tonnage was actually diverted to this road. Both forms of gross and net money pools were in fact tried.

The regulation of roads in trunk-line territory was intrusted to two subsidiary associations, known as the Trunk Line and the Central Traffic associations, with headquarters, respectively, in New York and Chicago. The former had supervision of rates in the eastern section; while the latter supervised rate adjustment on east-bound shipments from Chicago. Various

[1] *Cf.* 55th Cong., 1st sess., Senate Doc. no. 39; 55th Cong., 2nd sess., Senate Doc. no. 133; I. C. C. Ann. Rep. 1897–'98; on this period.

attempts were made to consolidate the work of these two associations — in November of 1892 and again in 1894. In the latter year, particularly, a traffic pool of east-bound business, which has always been more difficult to handle, owing to the multiplicity of points of initial shipment, was practically arranged. It seems to have been an attempt to regulate rates by imposing a fine of $10,000 for each infraction of the agreement, this arrangement having worked satisfactorily in the South under similar circumstances. Finally, in January of 1896, the entire business of the trunk lines was intrusted to the so-called Joint Traffic Association. The control of traffic division was vested in a permanent board, representing each of the nine leading trunk lines. Its recommendations were to be enforced by the imposition of a fine of $5,000. As indicative of the apportionment of east-bound business made under an award of arbitrators, the opposite table is of interest. Comparison of this with the preceding table, giving the apportionment ten years earlier, shows that the balance of power between the trunk lines had become very little altered.[1]

This seems to have been an actual traffic pool, with diversion of freight to secure the allotted percentages. Its efficiency, however, never received a fair test, inasmuch as action was immediately brought at the instigation of the Interstate Commerce Commission to declare the contract illegal under the Act to Regulate Commerce. Yet in spite of the decision of 1898,[2] rendered by the Supreme Court of the United States, which declared this association illegal, it continued to perform many functions of a co-operative character, and has not occasioned serious complaint on the part of shippers. There seems to be some sort of an understanding between the lines by which harmony is engendered.[3]

In the territory west of Chicago, the prohibition of pooling in 1887 produced wide-spread demoralization. The old agreements were dissolved; and as a result, during 1888, there were

[1] See page 581. [2] P. 554, *supra*. [3] P. 480, *supra*.

APPORTIONMENT OF EAST-BOUND SHIPMENTS FROM CHICAGO, 1896

[U. S. Supreme Court, October term, 1896–97. United States *v.* Joint Traffic Association, No. 341. Brief for United States, p. 50.]

	Live stock and dressed meats	Dead freight
	Per cent.	*Per cent.*
Baltimore and Ohio Railroad	4.5	8
Cleveland, Cincinnati, Chicago and St. Louis Railway	1.1	5.8
Chicago and Erie Railroad	9.4	11.2
Chicago and Grand Trunk Railway	13.2	11
Lake Shore and Michigan Southern Railway	19.8	14.2
Michigan Central Railroad	16.1	13.6
New York, Chicago and St. Louis Railroad	11.3	8.2
Pittsburg, Cincinnati, Chicago and St. Louis Railway	10.7	7
Pittsburg, Fort Wayne and Chicago Railway	8.7	14.2
Wabash Railroad	5.2	6.6
Total	100	100

disastrous rate wars throughout the West. Early in 1889 the presidents of the roads concerned, met and organized the Interstate Commerce Railway Association, which was intended to exercise control throughout the territory west of Chicago, with the exception of the transcontinental and international railways. It was general in its scope, having for an object merely to maintain rates and to enforce the law. Provision was made for a guarantee fund, for statistical reports to secure publicity, and for the payment of penalties. This association was intrusted to the management of the Hon. Aldace F. Walker, who had formerly been a member of the Interstate Commerce Commission. It went to pieces, however, within a year. In a few months another presidents' agreement was entered into, which in turn resulted, in January of 1891, in the organization of the Western Traffic Association. This was less centralized than its predecessor, and was rather in the nature of a federation. Under it there were to be organized more highly specialized associations, to deal with traffic in particular territories,

such as the Gulf, trans-Missouri, and transcontinental business. Private traffic agreements were not prohibited, as in its predecessor; but provision was made that they must be filed and made open to inspection. Soon after this time — in 1892 — the United States filed a bill against the most efficient of the subsidiary organizations under this Western Traffic Association, known as the Trans-Missouri Freight Association. This had been in existence since early in 1889, a committee representing the various roads concerned, having power to enforce agreed rates under penalty of a fine. This organization, which seems to have successfully performed many of the functions of a traffic pool, was upheld in the United States circuit court, but in 1897 it was held by a majority of the United States Supreme Court to be in violation of the anti-trust law of 1890.[1]

The only group remaining, that of the Pacific roads, had a checkered history in respect to pooling after 1887. The roads concerned organized in 1888 the Transcontinental Association. This, like the trunk-line pools, endeavored to secure an equitable division of business, by allowing a differential to the Canadian Pacific; and in the following year this differential was increased in order to prevent ruinous rate cutting by this extraterritorial competitor. Objection from the Southern Pacific Company, however, led to constant discussion and dissatisfaction, so that in 1892 the Transcontinental Association was dissolved. Since 1892 the Canadian Pacific has not been a party to any transcontinental agreement, but has simply proceeded to take a differential of 10 per cent. under the rates allowed by the other lines. The California roads organized a Transcontinental Freight Rate Committee in 1893. This was dissolved in 1897 and replaced by the Transcontinental Bureau, which included the Northern Pacific and the Great Northern. This organization has endeavored to harmonize action between the lines with indifferent success until recently, when the

[1] P. 553, *supra*.

great movements toward consolidation brought about a concerted action in all matters of traffic policy.

As to the legal status of pooling in the United States, a distinction must be clearly made between the common law and the Sherman Anti-Trust Act. In his brief for the United States in the Joint Traffic Association case,[1] the Solicitor-General declared that pooling contracts under the former have almost without exception been held illegal.[2] Thus even without the specific prohibition of section 5 of the Act to Regulate Commerce, the unanimity of these decisions would probably have inhibited the continuance of pooling contracts. Both the legislature and the courts in the United States have evidently been in accord in their insistence upon competition as a safeguard of the public interest.[3]

The legislative prohibition of pooling by section 5 of the Act to Regulate Commerce of 1887 begins with the report of the Cullom Committee. This report stated that it "does not deem it prudent to recommend the prohibition of pooling," adding that "the ostensible object of pooling is in harmony with the spirit of regulative legislation. . . . The majority of the Committee are not disposed to endanger the success of the methods of regulation proposed for the prevention of unjust discrimination by recommending the prohibition of pooling, but prefer to leave that subject for investigation by the Commission, when the effects of legislation herein suggested shall have been tested and made apparent." This opinion was undoubtedly influenced by the fact that only about one-third of the witnesses interrogated were opposed to such concerted action for the maintenance of rates. The Senate bill, based upon the Cullom Committee Report, was originally adopted

[1] Oral Argument in Reply. Supreme Court, U. S., October Term 1897; *U. S.* v. *Joint Traffic Association*, no. 341, p. 49.

[2] *Cf.* the Closser case, 126 Ind., 348; as also 30 Fed. Rep., 2; 61 *idem*, 998; T. M. Cooley, Popular and Legal Views of Traffic Pooling, reprinted from the *Railway Review*, especially the Central Trust Company case of 1888 enforcing a pooling contract under certain circumstances.

[3] Chapter XVII, *supra*.

without this provision. Its preceding clauses were all based upon concrete experience as crystallized in the existing laws of Massachusetts and Great Britain. The prohibition of pools by section 5, on the other hand, was a leap in the dark, due to the stubborn insistence of Judge Reagan of Texas, then Chairman of the Committee on Commerce of the House of Representatives. Not until the last moment in cönference was this prohibition inserted after considerable opposition by the Senate conferees. Added importance attaches to this action by the Federal Congress because of its influence upon the subsequent policy of different states. Within four years traffic agreements between parallel roads were forbidden by no less than fourteen commonwealths.

The rate demoralization engendered by the dissolution of the traffic associations by the Supreme Court of the United States, through its interpretation of the Sherman Anti-Trust law, led to a number of proposals for legislation in 1897. A bill to rehabilitate pooling had already as a matter of fact passed the lower house in 1894. Three distinct policies were indicated in the bills presented. One, fathered by pro-railroad senators, merely sought to repeal the prohibitory fifth section of the Act of 1887. No legal status was conferred. Railroad agreements would then stand or fall by the common law. The other extreme was represented by bills specifically authorizing inter-railway agreements respecting competitive traffic. Subject to approval by the Interstate Commerce Commission, a bill of a third type, in the nature of a compromise, received the official sanction of the carriers. Supervision by the Interstate Commerce Commission was conceded, but its decision was to be subject to revision by the courts. The need of action was evident, but nothing resulted.[1] The obstacle to legis-

[1] 12 Ann. Rep., I. C. C., 32. The following references to the Congressional Record may also be useful for consultation: — 53rd Cong., 3rd sess., vol. XXVII, pt. 1, 1894, pp. 62–70, favoring pools; *ibid.*, pp. 87–95, against; *ibid.*, pp. 95 *et seq.*, favoring pools; *ibid.*, pp. 101–105, against; *ibid.*, pp. 135 *et seq.*, favoring pools; *ibid.*, pp. 143 *et seq.*, favoring

lation at this time seems to have been the unwillingness of the Interstate Commerce Commission to agree to any legislation which did not specifically enlarge its power over rate-making.[1] The railroads ardently desired, not only the rehabilitation but the actual legal sanction of pooling contracts. Legislation to this end could not be had without specific approval by the Interstate Commerce Commission, which sought to make use of this need as a lever to enforce its authority in the matter of rates. Individual members of the Commission, particularly the Chairman, specifically stated that the anti-pooling clause was "irreconcilable "with the general spirit of the Act of 1887. The majority of the Commission, in fact, seems to have been convinced in 1897 of the expediency of actual legalizing pooling contracts under suitable safeguards.

After the immediate confusion engendered by the traffic association decisions of the late '90s, legislative interest in the subject of pooling waned completely.[2] Attention was focussed upon more important aspects of governmental control. Nevertheless, high authority still favored the granting of a definite legal status to inter-railway agreements. A clause to this effect formed a part of the Taft Administration bill of 1910, but the Progressive coalition succeeded in striking it out;[3] it was strongly urged that the present prohibitive act provoked its own violation. Self-help on the part of the railroads, it was argued, for the limitation of competition within reasonable limits was essential to the prevention of grave abuses. The point seems to have been well taken. Congress insisted that competition should be kept alive. The courts had fully ac-

pools; *ibid.*, pp. 220 *et seq.*, favoring pools; *ibid.*, pp. 226, the Patterson bill as passed by the House; *ibid.*, pt. 2, pp. 1479 and 2627, against; *ibid.*, pt. 3, pp. 2208 *et seq.*, against.

[1] The situation is described in Railroads: Rates and Regulation, chap. XIV.

[2] Except Hearings before Senate Int. Com. Com. on the Cullom bill, 1900; and *idem* on the Nelson bill, 1902.

[3] Railroads: Rates and Regulation, p. 560. The elaborate plea by Senator Root on April 1, 1910 (Cong. Record), deals fully with the subject.

quiesced in this policy, but it was and is obvious that such competition must be tempered by arbitration or agreement. A return to the unrestrained rivalry of the early days would be disastrous. Not even the vigilance of the state could hope to secure the best results without encouragement and sustentation of some measure of concerted action by the carriers themselves.

The persistence of pooling agreements, not only after the prohibition of the Act of 1887 but even after the adverse decisions of the Supreme Court in the late '90s, goes far to establish the positive need of some sort of an understanding in order to promote stability of rates. That an actual division of tonnage took place under the Joint Traffic Association as late as 1894 is proven by our table on page 591. During the late '90s a number of proceedings against the cotton pools in the southern states are on record, as has already appeared in our historical review. The aid, even, of the courts was as late as 1894 invoked to compel the payment of allotted earnings between carriers in other parts of the country although the action failed.[1] In 1900 the Buffalo grain pool was also in active operation.[2] Four years later in connection with the Orange Routing cases in California it appeared that an apportionment of this traffic had been systematically arranged between the Atchison and the Southern Pacific.[3] In 1905 proceedings were directed against a similar immigrant pool of the Western Passenger Association, by which all business was to be equally divided among the carriers concerned. The scene shifted in 1907 to a number of associations in the soft-coal field, which sought to eliminate competition by agreement; followed a year later by similar arrangements covering the transfer of sugar on the Atlantic Seaboard.[4] It is clear enough

[1] 61 Fed. Rep., p. 998.
[2] P. 600, *infra*.
[3] Railroads: Rates and Regulation, p. 546; 132 Fed. Rep., 829; 10 I. C. C. Rep., 611.
[4] I. C. C. investigation of eastern bituminous coal situation, Jan. 25, 1907, p. 30 *et seq.*; 14 I. C. C. Rep., 619. As also 6 *idem*, 142.

from such evidence that nothing but the continued vigilance of the government held pooling agreements in abeyance, despite the emphatic prohibition of the Supreme Court of the United States.

The experience of Great Britain at this particular juncture in our railroad affairs is illuminating. The state policy respecting pooling agreements is diametrically the opposite of our own. As early as 1867 a Royal Commission on Railways recommended that companies should be allowed to enter into valid working and traffic agreements, without authorization either from Parliament or from the Board of Trade. Moreover, in the absence of specific legislation to the contrary, the English courts have sustained such concerted action for the circumscription of competition;[1] although the lawfulness of joint-purse contracts on non-competitive business is still open to question. In practice, a large number of such agreements are in effect at the present time.[2] Some of them date as far back as 1862. A typical arrangement is the present division of the beer traffic between Burton and London, entered into between three companies in self-defence against the big brewers. Even broader arrangements are concluded, covering all competitive traffic of whatever sort. Thus there is the 90-year pool formed in 1909 between the London & Northwestern Railroad and three of its competitors. This last example is peculiarly significant for us, as it was an alternative for a much closer combination for which Parliamentary sanction had been actively sought. These English pools are of the net-money type. That is to say, twenty per cent. is first deducted from gross receipts to cover working expenses, before the residue is apportioned among the members.

[1] Notably *Hare* v. *London, etc., Railway Company,* 1861. Many citations in Noyes On Intercorporate Relations, p. 524. *Cf.* on the other hand, Robertson, *op. cit.,* p. 46.

[2] Knoop, Outlines of Railway Economics, 1913, p. 105, and Robertson, *op. cit.,* cite several.

British interest of late in the subject of railway combination found expression in the report of a Departmental Committee of the Board of Trade in 1909.[1] This body renewed the recommendation of 1867, that encouragement should be afforded to binding agreements for amalgamation, division of territory or pooling of traffic. These, however, it was added, should be public as to their terms. The committee unanimously agreed, — and it is not without significance that six of the ten members were without corporate affiliations, three were lawyers with experience in railway matters and one was a representative trader — that the balance of advantage, not only to the railways but also to the public, would be found to attach to a properly regulated extension of co-operation rather than overstimulated competition. They reached the conclusion, already clear to discerning students in the United States, that however effective market rivalry may still be, direct competition of railway routes one with another, — water competition aside — is dead or dying.[2] Certain of the past effects of competition persist, but may not safely be relied upon for the protection of the public in future. In one respect, however, this report condemned American practice, through disapproval of a proposed administrative sanction for such contracts as seemed desirable. The committee preferred new legislation which should provide legal remedies in the form of damages for such evils as might arise from concerted action.

The foregoing official recommendations, taken as a whole, seem to indicate a rejection of further reliance in England upon competition. They point possibly to something like the French system, which avoids useless duplication of lines or service by a territorial apportionment between different companies. But the Parliamentary committee, in declining to

[1] British Documents, 1911, Cd. 5631.

[2] *Cf.* the admirable discussion with diagrams in Amer. Economic Review, IV, 1914, pp. 771–792.

recommend such positive governmental supervision as now obtains in the United States, while at the same time sanctioning a limitation of competition, would seem to be opening the way for British railways to go to sleep with impunity. Without constant and persistent state intervention, it is at least open to question, once competition is circumscribed, whether an adequate public service will continue to be rendered. Either one or the other safeguards must be provided. Without either of them, stagnation would seem to be invited. For the United States, on the other hand, where such administrative authority already exists in ample measure, it appears as if the encouragement of co-operation, or even of concerted action, might safely take place.

Discussion of the economic serviceableness of railway agreements in the public interest may be revived at the present time upon an entirely different plane from that which marked the debates twenty years ago. Three events of profound significance have entirely transformed the background in the meantime. For adequate control over rate-making has been conferred upon the Interstate Commerce Commission by the Act of 1910; rebates and personal favoritism have been to all intents and purposes eliminated by the Elkins and subsequent laws; and combination among the carriers, with an attendant harmonious conduct of business, now fully recognizes the steadying influence of the other two. Nevertheless, bearing these considerations in mind, it may be worth while to review the situation as it at present stands.

The primary objection on the part of the public to railroad agreements used to be based upon the idea that somehow they were necessarily intended to increase rates. And despite the solemn asseveration of pool managers — naturally not always to be taken too seriously — that their functions were intended less to make rates than to provide for the maintenance of rates already agreed upon, this mistrust was in all probability well founded. The danger was well illustrated in the base of the

Buffalo ex.-Lake Grain Pool of 1900.[1] This sought to divide the grain traffic between the four lines from Buffalo to the seaboard. It was clearly shown that, by agreement upon certain percentages at an established rate, it would have been entirely possible to maintain substantially higher charges than in the absence of such an understanding. But, on the other hand, it was equally clear that such a contract operated to steady an otherwise uncertain and difficult traffic situation. The existing power of the Interstate Commerce Commission over freight rates, automatically and entirely disposes of this objection; but, even without it, the fact that rates are so largely made by conditions beyond the power of the participants to control in most instances, would effectually dispose of this argument. A more serious objection is that the limitation of competition by inter-railway agreements tends to stagnation, to just the degree that it lessens that keenness of rivalry upon which the public has learned to depend for prompt and adequate service. And it is at the present time upon just such competition in facilities, and not at all in the matter of rates that reliance must be placed for progress in future.[2] Whether such rivalry can be maintained by other means, such as a greater control administratively over operation, is yet to be established. On the whole, railway agreements have in the past favored the weak lines as against the strong. It has been the longer, lame or round-about routes which under the old money pools had to be subsidized in order to keep their competition within bounds.[3] And it has always been the strong lines, fully able to protect themselves at all points, which have been content with the prohibition of such agreements, as it exists at present.

Two substantial arguments in favor both of the repeal of the present prohibition of pooling and of the substitution of

[1] 14th Ann. Rep., I. C. C., 21; 15 *idem*, 16, 55th Cong., 2nd sess., Senate Doc. no. 133, pp. 19, 23, 34, 74, 97 and 108.

[2] P. 281, *supra*.

[3] P. 589, *supra*.

a positive legal sanction, under supervision by the Interstate Commerce Commission have already been given. The first of these is that by such means, judging by experience, unusually difficult and complicated traffic situations may be steadied and controlled. The mechanism operated for many years in the southern states for the harmonious division of cotton business demonstrates the force of this contention. Such pools existed for years at a number of points throughout the South. The situation at Memphis is entirely typical. Cotton comes in from all the territory round about, as well as from remote sections of the South; and six railroads compete for its transportation. A large amount of this cotton is destined for export, and the remainder is in the main subject to a long haul to New England. Rates by water for export are, by the nature of the case, highly fluctuating in amount. They vary from day to day, unlike rail rates, according to the number and character of vessels which may be awaiting a cargo. This cotton is exported from the United States by any one of a number of ports, no less than thirteen, in fact, between New Orleans and Boston. Each railroad running into Memphis makes connection with a different port or group of ports. Long experience has shown that, without some definite agreement or understanding, a large number of different rates on cotton to Liverpool or Hamburg may be quoted on the same day, according as the freight goes out by Baltimore, Charleston, or New Orleans, etc. The annoyance and uncertainty to the shipper incident to such diversity of rates is plainly apparent. Such a situation offers every incentive to rate cutting and personal discrimination of the most pernicious kind.

At Montgomery, Shreveport and a number of other points besides Memphis, where the situation is as above described, actual traffic pools have been instituted and still exist. Their validity was, in fact, upheld by the supreme court of Tennessee in 1899.[1] The procedure was as follows: Each day a designated

[1] 19 Pickle (Tenn.), 197; 52 S. W. Rep., 301; 16th Ann. Rep., I. C. C., 43.

official, acting for all the roads jointly, received by telegram from every port of export in the United States, a dispatch stating the prevailing rate of freight on that day. Each of the carriers serving these ports had a regular rate on cotton which it accepted for domestic traffic. The chairman of the Cotton Committee issued a bulletin each day, stating the domestic rate from Memphis to each port, and also the ocean rate prevailing on that day from that port to destination in foreign ports. The lowest combination of any of these rates from any port was accepted, on the basis of this showing, by all the roads concerned. Thus, for example, it might appear that on a certain day the combination of ocean and rail rates was such to Liverpool that; *via* the Illinois Central to New Orleans they amounted to 60 cents a hundred pounds; *via* the Southern Railway through Brunswick, 72 cents; *via* the Nashville, Chattanooga & St. Louis, through Savannah, 70 cents, and *via* the Southern Railway through Norfolk, 62 cents. The lowest joint rail-and-water rate prevailing for that day to Liverpool, on the basis of this showing, was the rate *via* New Orleans, namely, 60 cents. In the absence of any agreement between the roads, under these conditions, all the cotton on that day would go out with a rush towards New Orleans. On the following day it might happen that the lowest combination was *via* Savannah, and all the cotton would consequently go by that route. The result would be great congestion of traffic, alternating with periods of entire inactivity on the different roads. By the simple device of an agreement of all the roads affected to accept the lowest rate by any route on all traffic which went out, and to accept it on the basis of an agreed percentage, all this inconvenience and uncertainty, both to the shipper and to the railroad, was obviated. The cotton moved smoothly and freely, and it is difficult to see how the public interest was in the least jeopardized.

The second manifest service of railway agreements, especially if our existing great railway systems are to remain

dismembered under the Sherman Act, is that by them alone the most economical routing and handling of freight may be had. In our earlier volume,[1] the great waste incident to unrestricted railway competition was fully discussed; and one of the remedies proposed for minimizing these wastes was the grant of legal sanction to such understandings as tended to promote their elimination. The disadvantage of useless duplication of service by competing lines is well appreciated.[2] Between Chicago and St. Louis, four trunk lines at one time operated as many passenger trains each way on practically identical schedules; when ten or twelve trains, at the most, would have carried the traffic just as well. In freight schedules between New York and Chicago, five competing routes recently maintained a 60-hour schedule, although a much slower one would have answered all the requirements of most shippers, is made with regularity and certainty. Yet no single road dared cut down its facilities; nor could piecemeal action have had any other result than to embarrass the public. The carriers certainly ought to be able to act co-operatively, in such a way as still to render an abundance of the best service, without, as at present, giving a superfluity of it.[3]

On the other hand, a complication, particularly in agreements as to routing, is now introduced in the provision of the Act of 1910 permitting the shipper to prescribe the line of carriage. Assuredly the discontinuance of certain routes within the great railroad systems may at times embarrass the public. Thus the Southern Pacific arbitrarily withdrew its Ogden-Portland lines entirely from certain classes of business, forcing all of it, formerly competitive as to service, over the Oregon Short Line.[4] Yet undoubtedly much better service, together

[1] Railroads: Rates and Regulation, chap. VIII.
[2] *Railway Age Gazette*, vol. LI, 1911, p. 1096; and *idem*, vol. LVII, 1914, p. 795.
[3] *Cf. Railway Age Gazette*, vol. LVI, 1914, p. 1327.
[4] Appellant's Brief of Facts, *U. S.* v. *U. P. RR. Co.*, U. S. Supreme Court, October term, 1911, p. 213.

with manifest economy in operation, might conceivably result from a better division of labor among American railroads. The English carriers have devoted special attention to the concentration of traffic between given points over the shortest available routes.[1] Therein, also, lies a great advantage under the completely unified governmental systems of Europe, particularly of Germany.[2] Should our American roads each specialize in the business for which it was best adapted, mutually respecting one another's rights, many wastes might be eliminated in future; and such economies in service as circumstances permit might be introduced without the least detriment to the shipper.

An instance of the possible advantage of co-operative action by railways is afforded by the present situation respecting the ownership and use of equipment. The main reason for the surprising success of the private car companies has been their ability to keep their rolling stock in almost continual use, by shifting it according to seasonal needs from one part of the country to another.[3] The disadvantage under which the single railway operates in this regard is pronounced, particularly under the present conditions of financial strain. The stronger roads with a varied traffic are able to care for their own equipment needs; but those with poor credit, as well as those which rely upon irregular and seasonal business, have been greatly embarrassed by the expenses entailed by equipment insufficiently employed to pay returns upon its cost. The improvement incident to payment for equipment by the day instead of by mileage, as contributing to keep rolling stock constantly in motion, has been considerable. But it is evident that some service, co-operatively financed and managed by the railroads, is needed, which shall free them from dependence upon the private car companies. Several plans for joint purchase have

[1] Robertson, *op. cit.*

[2] National Railways of Mexico, unified, in 1913 abandoned almost 300 miles of useless duplication.

[3] *Cf.* Railroads: Rates and Regulation, p. 192; and p. 428, *supra*.

been proposed of late.[1] One would finance the acquisition of equipment through an association supported co-operatively by the railways of the country, with liberal resort to the issue of equipment trust securities. Another proposes that the Federal government should purchase the equipment and lease it to the railroads. There is evidently great need of improvement along this line; but efforts thus far have been blocked by those carriers owning many cars, which insist upon retaining their control, together with those other roads which profit by the indigence of their neighbors. It would seem as if some concerted action, short of actual joint purchase, might be devised, were it possible under the law.

In how far the great railway combinations already described, which sprang up after the resumption of prosperity in 1898, were an outcome of the drastic repression of pooling is somewhat open to question. The complacency with which the public, and particularly the press, viewed the great consolidations of 1900–'10 is especially peculiar in view of the popular hostility to pooling. Hence it is not without interest to consider in how far opportunity favoring legislation might have discouraged the growth of the great systems in the subsequent years. Certain differences as to results between pooling and consolidation may be noted. One is that corporate combination is far more comprehensive in scope. Agreements for the division of traffic constitute but a small part of the mere machinery of rate-making. A railroad may readily preserve a large part of its identity, even to the extent of reserving power to make rates independently, under a traffic agreement, without thereby entirely nullifying the steadying influence of the pool. The economies and inhibitions attendant upon actual combination are more far-reaching. This is well shown by the effect of the Harriman mergers upon traffic conditions in the Far West. The government maintained that three results

[1] *Railway Age Gazette*, vol. LV, 1913, pp. 414, 941 and 957; *Journal of Political Economy*, vol. VIII, 1899, p. 347.

flowed directly from these combinations; namely, that rates were grossly increased, the construction of new lines into competitive territory was prevented, and that the service instead of being bettered sensibly deteriorated.[1] Far more rivalry might have continued under a pooling agreement, each party being still desirous of maintaining, or even of increasing, its percentage status in the periodic division. Consolidation may also operate to reduce facilities; while pooling need necessarily in no wise contribute to this result. Healthful and reasonable rivalry may persist, stripped of the ruinous aspects of competition. Reference has elsewhere been made to the possible advantages of co-operation in unifying and distributing passenger traffic.[2] Instead of useless duplication of service, traffic agreement may bring about appreciable economies, without the downright sacrifice of service which a powerful combination, like that of the New Haven in recent years, might impose upon a suffering public.

Traffic agreements enjoy an advantage over combination in the matter of scope in another way. No consolidation can aspire to include all competitors; but a pool may readily enough comprehend all the rivals within a given field. Moreover, all of the abuses of excessive or uneconomical competition may just as well arise between two great systems, each representing the ultimate stage of consolidation, as between a dozen less powerful companies. It is certainly not without significance that a considerable modification of opinion on the part of representatives of the public, formerly hostile to traffic agreements, has supervened of late. The state railroad commissioners in convention assembled have formerly approved such legislation. The leading freight associations about 1900 indorsed a bill to repeal the existing prohibition. It is conceivable that conditions have so far improved, in respect of

[1] Appellant's Brief of Facts, *U. S.* v. *U. P.*, *etc.*, U. S. Supreme Court, October term, 1911, p. 19 *et seq.* Also p. 561, *supra.*
[1] P. 603, *supra.*

the general attitude toward competition, that no legislation is necessary. Especially is this possible under the latest liberal construction, which, as we have seen, has been placed upon the Anti-Trust law by the Supreme Court of the United States. But with or without such enactment, it is evident that many economies in operation, particularly in routing,[1] might be introduced, were agreements of this sort to be set free from the express inhibition of the Act to Regulate Commerce.

[1] *Cf.* the famous "equalizing circular" under the Northern Securities Company, to bring about economical routing over the shortest line. P. 427, *supra;* and B. H. Meyer, *op. cit.*, p. 249.

APPENDIX I

A matter of extraordinary difficulty has been the treatment of corporations "held jointly" by several different systems. These are usually terminal companies in the larger cities. The Chicago & Western Indiana Railroad Company, for instance, operates some 48 miles of line and is capitalized at $33,750,000. It is owned jointly by the Atlantic Coast Line, the Erie, the Wabash, the Grand Trunk and the Rock Island. It would seem as if properly the proportionate share of its total capitalization held by each participating road should be an allowable deduction from the total outstanding securities of that road in determining net capitalization. The data for doing this, however, aside from the statistical labor involved, are not available in many cases. And what, from the point of view of principle, is even more important, if this were done the proportionate division of income to each participant would need to be likewise made. Inasmuch, however, as the earnings of these companies, thus jointly held, are not usually included in the statements of individual systems, it seems fairer to eliminate them entirely. Otherwise, at a later point in our calculations, as will appear, we should be taking account of their capital issues, while still neglecting to include their earnings. Therefore, in the case of all these jointly held companies — such again as the St. Louis Terminal Association and the Richmond-Washington Company — their mileage roughly totalized, and the aggregate of their security issues (given separately in a column in our table) have in each case been eliminated entirely. This procedure is radically different from the method properly adopted in the Report on Intercorporate Relations, which, as

has been said, sought to determine, not the particular, but the general capitalization of the entire railway net. The deduction of the total rather than the proportionate capitalization of these jointly held companies from the total outstanding capitalization of each participating system, in order to ascertain net capitalization, obviously over-corrects the error. It weighs the results on the side of conservatism, making the capitalization of each participating road appear less than it should be. Strong companies which own all their own terminals, instead of dividing ownership with other roads, are made to appear more heavily capitalized by comparison than they should. And, from the operating point of view, it is absurd, of course, to eliminate these terminal companies at all. Where would the New Haven and Boston & Albany roads be without the Boston terminal station? Yet the capital of $14,500,000 representing it has been eliminated from our calculations altogether; and, worse than that, this total capitalization has been deducted from each participant. The main plea in extenuation, however, is that greater error would result from any other course.

What shall be said of this procedure, as applied to other jointly held companies than mere terminal associations? The Chicago, Indianapolis & Louisville (Monon) is jointly owned by the Louisville & Nashville and the Southern Railway. At the date of our calculations the Chicago & Alton was jointly held by the Union Pacific and the Rock Island. Other notable instances of roads in this class are the San Pedro, Los Angeles & Salt Lake and the Colorado Midland. The maximum of bewildering complexity in ownership appears in the Little Kanawha Syndicate or the Southwestern Construction Company.[1] A number of different roads are interested in the former, but the Southern Railway owns about 40 per cent. of its capital stock. In this case, as in many others in this class, such substantial investments appear in our tables and are duly accounted for

[1] *Cf.* p. 444, *supra.*

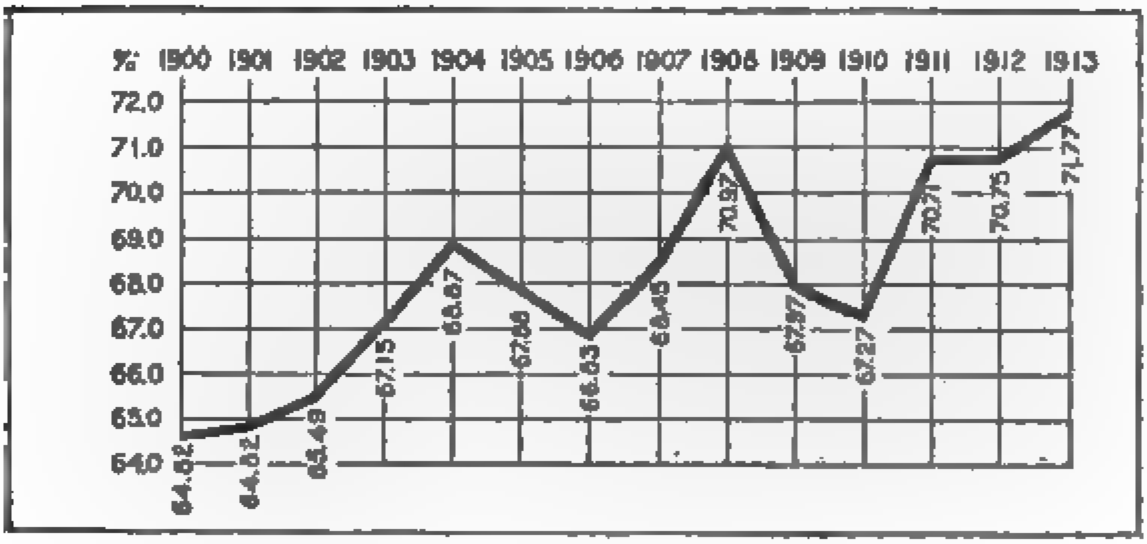
under the head of "Minority Holdings" or investments "Outside the System." To deduct them again from gross capitalization, as jointly held companies, is undoubtedly duplication. Yet how can it be avoided; and if it could be, would it materially affect our conclusions? The answer is positive. The exclusion of such jointly held companies makes little difference in the final result for most railways. This is particularly true of the Union Pacific and the New York Central. For others, like the Reading and the Atchison, the net capitalization is actually increased by elimination of jointly held corporations. For some few roads, notably the weaker companies, this factor is of greater moment. The net capitalization per mile of the Wabash company was brought down by eliminating jointly-held companies from $119,000 to $92,000 per mile. The Illinois Central's capitalization came down from $52,000 to $39,400 per mile. There can be no doubt that in any detailed computation, ownership of the jointly-held companies should be apportioned and allowance for it made. In this case, however, it seemed fairer to the few companies detrimentally affected to rule them out. And this, at a considerable expenditure of statistical labor, has been done in order to be on the safe side.

APPENDIX II

THE operating ratio is a criterion of financial success in management of substantial worth when critically and carefully used; but it is at the same time likely to be most misleading in inexpert hands.[1] This is a figure giving the percentage of gross earnings from operation required for operating expenses. A high or rising percentage, therefore, apparently denotes expensive or wasteful management. A low operating ratio, contrariwise, seems to afford evidence of efficient or prudent administration. This figure varies in practice between wide limits. For individual companies, exposed to peculiar conditions, it may range above 90. Conceivably, when a property is operated at a positive loss it will rise above 100. It may in extraordinary instances, such as ore roads, or with manipulated accounts fall as low as 40.[2] But normally it lies between 50 and 75. In other words, for most railroads anywhere from one-half to two-thirds of the income from operation is required to meet operating expenses. The balance, after the payment of fixed charges, remains for dividends or surplus. For the railway net of the United States as a whole, this figure reflects the rising cost of operation in recent years, as shown by the accompanying diagram. From a low point of 64.6 in 1900 it has gradually risen to almost 72 in 1913. For the large roads in trunk-line territory, the operating ratio in 1911 was

[1] The classic discussion of this question is by Albert Fink in the Louisville & Nashville annual report of 1873–'04. J. S. Eaton, Railroad Corporations, 1900, is a standard. U. S. Statistics of Railways give results annually for all companies.

[2] For deceptive construction accounts see p. 20, *supra*.



Operating Ratio, 1900–'13.

70.35. **The operating ratio for typical railroads in 1911 is shown by the following figures.**

Operating Ratio, 1911

Carolina, Clinchfield & Ohio (coal) (1913)	17	Norfolk & Western	64
Virginian Railway (coal)(1913)	23	Southern Railway	68
Duluth & Iron Range (ore)	42	Chicago & Northwestern	70
Pittsburg & Lake Erie (ore, steel)	49	Pennsylvania	72
Union Pacific	53	Wabash	74
Southern Pacific	57	Boston & Maine	78
Central of New Jersey	57	Colorado Midland	87
Great Northern	61	Missouri Pacific	94
Atchison, etc.	63	Kansas City, Mex. & Orient	97.6
		Père Marquette (1913)	106

The defectiveness or inadequacy of the operating ratio, as a moment's consideration will show, is due primarily to its entire dependence upon the system of accounting in force. Given entire uniformity as to financial policy in such matters as maintenance and improvement, as treated in the capital and income account, comparisons between different roads or between results for the same road through a series of years are valid. But otherwise they are apt to be entirely misleading. If in one instance taxes are included in operating expenses or improvements, and betterments are charged to operating expenses instead of capital account, while in others a different

policy is adopted, the operating ratio is utterly worthless for purpose of comparison of one property with the other. This figure being a ratio between two variables, anything which affects earnings as treated in the accounts also upsets comparisons. The Union Pacific, for example, in 1905 is said to have reported the extraordinarily low operating ratio of 48, by unduly increasing its gross receipts by additions from other sources than earnings.[1] The stock market value of an operating ratio of 48 instead of 56 is too obvious to require explanation. The fluctuating and uncertain policy of American railroads in the past, in these respects, has rendered the use of the operating ratio in the hands of others than experts highly dangerous. The financial results of roads that are being "skinned" or "fattened" for speculative purposes could never rightly be interpreted in terms of the operating ratio. The receiver of the Père Marquette in 1913, by including an overload of expenditures for new equipment in operating expenses actually brought the ratio to 106. But since the rigid standardization of accounts under the Federal laws since 1906, a new value or significance, nominally at least, attaches to this figure.

Even with standardization of accounts the operating ratio still requires expert interpretation. Eaton well characterizes it as affording a convenient and quick summary of results. But he adds that the operating ratio shows merely the actual profit, without giving any idea of possible profit. In other words, it shows nothing as to the potential earning power of the invested capital. Nor does it show whether the fault, if fault there be, lies in the expensiveness of operation or in the dearth of business. No indication as to causes is afforded. The operating ratio may point to the existence of disease; but it is no further help in diagnosis. Referring to the table of operating ratios for individual roads as given above, the Great Northern, for example, may conceivably have a low operating ratio because of its successful policy in increasing train loads.

[1] New York *Evening Post,* Dec. 16, 1905.

But similar results, reflected in a low operating ratio, might flow from a large proportion of high-grade or other profitable traffic; or in another case, it might be affected either by the proportion of freight and passenger business, or of local and through traffic. Differences in the average length of haul are also important. Or from year to year, as a result of mere changes in the volume of business the operating ratio might fluctuate widely.[1] The most extraordinary results, appearing in case of the two coal roads at the head of our table of operating ratios, show what may be done with the most complete plants, specially built for a purpose, and efficiently operated from the start.

[1] *Cf.* Railroads: Rates and Regulation, chaps. II and III, especially p. 73.

APPENDIX III

THE construction company at its worst is exemplified by the experience of the Credit Mobilier in building the Union Pacific Railroad.[1] The first attempts at raising funds for construction by subscription to the capital stock proved abortive. A small sum thus raised hardly permitted a beginning to be made. Even after the Congressional Act of 1864 which doubled the land grant and bonds per mile, friends of the enterprise were doubtful as to its success. The prime mover in the enterprise was Thomas C. Durant who seems to have been interested rather in the profit on construction than in the subsequent operation of the property. The first contracts for construction half-way across Nebraska west from Omaha, were made with dummies who were subsequently to make assignment of them to such persons as might be designated by Durant. At this juncture new financial allies were secured in the persons of Oakes and Oliver Ames of Massachusetts, through whose personal and financial influence, both in and out of Congress, it was hoped that the success of the road might be insured. From this time forth the expedient of an independent construction company, separate and distinct from the Union Pacific, was adopted.

A charter conferring the necessary powers at law was picked up in Pennsylvania. The Pennsylvania Fiscal Agency, empowered to build railways in the South and West, was purchased; and the name was changed to the Credit Mobilier of America. The advantage of limited liability as a protection to subscribers in such a risky enterprise over any partnership

[1] Pp. 17 and 35, *supra*.

arrangement was clear. Funds necessary for a resumption of construction were quickly obtained. This corporation was to all intents and purposes identical in personnel with the controlling interests in the railway to be built. Subscriptions to rights in the earlier contracts were transferred to the new corporation, which was thus placed in possession of a considerable working capital. Unfortunately, however, no sooner were arrangements thus made, than decided friction between two factions headed by Ames and Durant developed. Neither seems to have considered the welfare of the railroad; both alike sought to make use of the construction company for their own private enrichment. The controversy turned merely upon the means which should in either case be adopted to this end.

After several futile attempts to raise funds by subscriptions to the capital stock of both road and construction company, matters were finally placed upon a firm footing in 1867. A tacit agreement was reached that, whatever the means adopted, the Credit Mobilier stockholders should have the profits resulting from construction. The final terms on which the remaining six hundred sixty-seven miles of line were to be built, included an agreement by Ames that in case bonds should not suffice to complete the work, he would subscribe for enough railroad stock to make up the balance. A complicated tripartite agreement was thereupon drawn up, by which Ames transferred his contracts to trustees representing the Credit Mobilier. From 1868 on, no further difficulties in securing capital were encountered. Numberless obstacles were overcome; and the work was completed well within the time limit set by Congress. But, financially, the operations were distinguished by an entire disregard of the obligations of the directors of the road, as trustees acting on behalf of its stockholders. The contracts made by these persons in a dual capacity, controlling both the railroad and the construction company, fully merited the popular condemnation which

Congressional investigation brought about. Ames, while, perhaps, no more guilty than his associates was expelled from Congress for his connection with the affair.

Estimates of the secret profits made by the Credit Mobilier at the expense of the Union Pacific varied greatly. The Congressional Committee of 1888 estimated these at $43,900,000, on an actual cost of $50,000,000.[1] This clearly excessive profit has been considerably scaled down by subsequent analyses. When account is taken of the considerable discount on sale of bonds, the rate of return seems to be but slightly over 25 per cent. which in view of all the circumstances does not seem immoderate.

[1] "It appears, then, speaking in round numbers, that the cost of the road was $50,000,000, which cost was wholly reimbursed from the proceeds of the Government bonds and first-mortgage bonds; and that from the stock, the income bonds, and land-grant bonds, the builders received in cash value at least $23,000,000 as profit, being a percentage of about forty-eight per cent. on the entire cost." — Report of the Wilson Committee on the Credit Mobilier; 42nd Cong., 3rd sess., H. R. Rep. no. 78, p. xiv.

APPENDIX IV

The distribution of ownership of railway securities is a matter of great public importance. It concerns a multitude of investors individually; and indirectly, through the medium of beneficial corporations, touches the welfare of a still greater number. As for the first class, the individual investors, it is impossible to ascertain the distribution of unregistered certificates of indebtedness; but accurate data concerning the number of shareholders has been compiled. The extravagant estimate of the late George R. Blanchard in 1897, that there were 950,000 stockholders and 300,000 bondholders in the United States was certainly wide of the mark. By direction of Congress in 1904, the Interstate Commerce Commission reported 327,851 as the number of shareholders of record. This figure, however, did not take account of duplications due to ownership in several different roads by the same person, nor did it analyze with any care the holdings of trustees and banking houses. As for the magnitude of holdings by beneficial corporations, it has been estimated by competent authority that railway securities constitute not less than one-fifth of the investments of savings banks, about one-third of those of colleges and other educational institutions, and approximately 30 per cent. of the reserves of the substantial fire and life insurance companies. Through these agencies, the number of persons indirectly interested in the welfare of the railways is greatly increased. By this same authority it was estimated that in 1905, about one-seventh of the stock and bond issues of transportation companies was thus lodged in the hands of semi-public institutions of this class.

The wide dissemination of railway securities is of interest because of its bearing upon the question of concentration of ownership or control within relatively few hands, especially as incidental to the growth of great railway systems. Scattered holdings are in this regard, a source both of strength and of weakness. Certainly a road like the Pennsylvania company with upwards of 50,000 shareholders — is too large an enterprise to be readily passed about from hand to hand. Mere size thus carries an implication of stability. In this regard, the difference between the Pennsylvania and the New York Central is significant. The latter road has only about one-fourth as many separate shareholders of record. Despite their equality in size, the ease with which the late Mr. Harriman in 1908 secured a substantial proportion of New York Central shares, could not conceivably take place on the other road. Yet on the other hand, scattered holdings in the case of smaller companies render continued control relatively easy in normal times, because of the inertia and lack of interest of the small investor. The greater the concentration of investment, the greater is the need of actual majority ownership of stock in order to insure control. Roads of a speculative sort not on a permanent dividend basis, like the Erie, the Southern Railway or the Wabash, are peculiarly exposed to centralization of control. Their securities sell for a low price, and the market is always an open one. Transfer of a considerable number of shares in such roads would not attract attention, and thereby defeat the purpose of those interested in securing control.

Indications are not wanting that the general public is more alert than formerly, as to opportunities for investment in times of sudden depression. Both the panics of 1903 and of 1907 have witnessed large increases in the number of small investors. Roads like the Atchison and the Union Pacific gained more than a thousand shareholders apiece within the short period of six months to August, 1903. The Pennsylvania added 15,000 new shareholders — an increment two and one-half

times greater than for the four preceding years. It was not until the next period of low prices in 1907, that the number of stockholders attained so large a total gain. A goodly part of the gain in 1903–'04 was from European sources, from causes already explained. The increase in the number of shareholders in 1907 was pronounced. The total for 25 large companies rose by upwards of 41,000 within the year — an augmentation of almost one-fifth. The Great Northern more than doubled its quota; the Southern Pacific increased by nearly one-half, and the Union Pacific by almost one-third. A peculiarity of these recent rapid expansions of railway ownership in periods of financial depression has been their permanent character. Such purchases are usually made for investment and may become a source of great financial strength to the companies concerned. And it is not unlikely that such investments in small lots by a wider, and especially a local constituency, may become a factor of some moment politically.

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